

MODERN CAREERS for BOYS

*20th Century
Opportunities for
Boys*

by JOHN
BOLTON



AN
INVALUABLE
GUIDE TO ALL
PARENTS AND BOYS
IN THIS MODERN AGE

MODERN CAREERS FOR BOYS

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JOHN BOLTON

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INTRODUCTION

The intelligent small boy, aged 6 or 7, when asked what he is going to be when he grows up, usually answers: "An engine driver" or "A jet pilot" or, more often in this modern age than ever before, "A space man". His fancy dictates his reply, which varies from day to day in the particular direction his imagination happens at the time to be fired by a new toy, a film he has seen or a book he has read. He lives in a world of fantasy, of make-believe; anything and everything will be possible for him when he is "grown up".

It is a vastly different matter when an older boy, in his final term or two, asks himself and his parents: "What shall I do when I leave school?" This question is of vital importance and must be answered realistically. A boy, aged 14 or 15, must face the fact that the job, occupation or profession he chooses eventually to take up must be a severely practical proposition for him. It must not only provide him with a good living but fulfil many other requirements, also. Merely because the world is so full of an infinity of interesting jobs, it may be the most difficult job in the world for a teen-ager to select exactly the right career for himself, without help. Many different points have to be considered, many pros and cons need to be weighed in the balance, many questions and problems have to be resolved satisfactorily if a wise choice is to be made.

The chief aim of this book is to assist each boy, with the co-operation of his parents who read and discuss it with him, to choose wisely his life's work, so that he has the best possible chances of making a good livelihood and of achieving true happiness and fulfilment. Towards this end, the material in this book has been selected and arranged so as to cover a wide and varied range of careers, each of which is described in substantial detail. It includes occupations suited to boys of a practical turn of mind; those having a scientific or mechanical "bent"; those of high intellectual capacity; those with imaginative or artistic ability; those possessed of humanitarian interests and other attributes, abilities and preferences. ✓

A standard arrangement has been used throughout this book so that comparisons may be made between one career and another, in

all respects. In each case, the first sub-section deals with *Rates of Pay*. Examples have been given, wherever possible under this sub-heading, of the amount of money which may at the present time be expected in the form of wages, salaries or other types of remuneration, by a professional at various stages and under differing circumstances in each career. A boy should be warned, of course, that because a particular career may at the outset carry a very high salary it is not necessarily the best occupation for him. Similarly, he should not immediately rule out the possibility of taking up a career for which a period of apprenticeship must be served with comparatively little remuneration. A career is the work of a lifetime and it is long-term prospects that count for most. The boy who prepares himself for a career of lasting benefit, interest and good prospects, even at the cost of temporary difficulty or deprivation, is in the long run in a much better position than the boy who unwisely accepts the job with an initially high salary but limited or non-existent prospects for the future.

The second sub-section, *Age of Entry*, contains details of the earliest time at which a boy may start in one career or another, either as a worker or trainee, as the case may be. Wherever possible, a definite indication is given of the length of time occupied by training or apprenticeship. A boy whose parents cannot afford to finance his training, which may occupy a period of several years in some cases, is not necessarily debarred from entering a selected profession. Details are included, where applicable in each section, of grant aid and other types of assistance which a particular boy may be able to obtain from one source or another.

Educational Qualifications, the third sub-heading, is followed by details of the standards of general education required to have been reached, or the examinations passed, by would-be entrants to each profession. Details are also included, where necessary in this or other sub-sections, of professional qualifications which it may be necessary to obtain during training in order to become a qualified member of the particular profession concerned.

It will be evident, in many cases, that fairly exact pre-entry requirements are laid down—for example, that the General Certificate of Education examination, or its equivalent, is required to have been passed in certain specified subjects. In view of this, it is advisable for boys and their parents to take note of all required or acceptable qualifications in order that preparation may be made to acquire these in good time, during general schooling.

The purpose of the fourth sub-section, *Personal Attributes and*

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Qualities Needed, is to help each boy to avoid becoming "a square peg in a round hole". To decide what a boy is *suited* to do, by reason of his individual attributes and aptitudes, is of at least equal importance to consideration of what he would *like* to do. A balance must be established and good sense must prevail if success is to be achieved. It is extremely unwise for a boy to attempt to become an actor, for example, *unless* this is definitely the only life for him, *unless* he has exceptional talent, *unless* he is prepared to undergo years of hardship with the ever-present threat of unemployment in a vastly over-crowded profession. Similarly, it is of little use for an outsider to want to take up a particular occupation if this happens to be a "closed shop", a profession in which many if not all apprenticeships go to the relatives and friends of those employed in it already. Far too many boys take up careers solely because they feel they would like to do so, without assessing their suitability or their chances of success. Of course, if a boy ultimately finds that he is unsuited to the career he has taken up, in other words has made a mistake, it may be possible for him to try to change horses in mid-stream, so to say. But this is wastage of valuable time, effort and nervous energy which might otherwise have been used to good purpose if the right job had been selected in the first place, in the light of hard facts.

About this Career contains general details designed to give an impression of the work involved, conditions, prospects and other important factors in relation to each career. It is necessarily a brief outline in each case, due to limitations of space, and the author hopes that parents may be able to supplement it in presenting a more or less complete picture to the interested boy.

The final heading in each section, *How to Become . . .*, is followed by details of the methods of obtaining entry into the chosen profession and, where appropriate, of progressing step by step in it to the highest possible level. It includes, also, additional details on various points which have not been dealt with in earlier parts of each section.

In preparing this book, the over-riding aim has been to include the maximum number of facts. Grateful acknowledgement is made to those who provided material for reference purposes and who gave unstintingly of their time and knowledge in checking appropriate sections of the original manuscript. Largely as a result of help from the executives of institutes, institutions, societies, associations and other organisations, also from private individuals, this book has been made factually correct and up-to-date at time

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of going to press. It must be added, however, that alterations are continually being made within various professions and readers are requested to make due allowance for this fact insofar as it affects the accuracy of the material of this book. As this book is reprinted, it will be revised completely and brought up to date, as it was for the 1960 edition.

FOREWORD

The Youth Employment Service

Some of you who read this book will come to it with a firm idea in your mind of the career you want to follow; some of you will come to it with a wide variety of interests and a mixture of aptitudes, facing the difficulty of making a decision and choosing the best job for you; some of you will read it because your ideas about a career are nebulous and your mind does not turn happily in any particular direction. All of you, however, will turn to it because you realise that the time has come or will come when this important decision of a career must be made. You will read it because you are interested or because you want help, and the book is intended to give you the guidance you are looking for. You will find information about a wide selection of careers, and you will be able to compare their prospects, the cost of training, the length of the learning period and the qualities and abilities needed for success.

It is to be hoped that this book will help you to clear your mind about the careers you are interested in, and strengthen the sense of direction and purpose you bring to your studies. But the difficulty of the final decision still remains. You will be discussing the problem with your parents and friends and will derive comfort and encouragement from their advice. You will no doubt talk to your teachers, whose knowledge of your abilities will be an invaluable basis for wise counsel. And for informative, unbiased advice both you and your parents will be wise to talk the matter over with your local Youth Employment Officer. The purpose of this foreword is, in fact, to remind you that the Youth Employment Officers are especially appointed to meet the need for unprejudiced people with whom you can discuss your doubts and air your ambitions.

You can go to them and know that they will welcome you, give you their personal attention and keep your confidences. You can be sure that they will be interested in you and your problems and that they will be able to help you to assess your own capabilities and your fitness for the many careers open to you. You can be sure that they have a wide knowledge of careers and that they have had considerable experience in guiding young people to find their

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vocation. Once your choice is made, they will also be able to help you to find an actual vacancy with an employer if you wish.

Parents may rest assured that the Youth Employment Officers desire their support and encouragement in their work. The Officers welcome parents' enquiries and have no wish to interfere with parents' responsibilities. You and your parents can be certain that their interest is *your* good and *your* future, and that their suggestions and recommendations are for you and your parents to accept or reject as you think best. They are there to place their training and experience at your disposal; they guide but do not coerce.

You will not have to pay for the help you receive from this service, because it is FREE. There are local Offices in most towns and cities. They are sometimes called Youth Employment Bureaux and sometimes Youth Employment Offices. If you do not know where the nearest one is, you will be able to find out from your local Education Office, any Employment Exchange or any Post Office. However, your first contact with the Service will probably be arranged for you by your Headmaster, since, in most schools nowadays, the Youth Employment Officer attends regularly to hold interviewing sessions for pupils and parents.

To Careers Masters who use this book, the National Association of Youth Employment Officers offers greetings, good wishes and the assurance of support and co-operation in the interests of the boys for whom this book is written.

H. Heginbotham,
Vice-President,
National Association of Youth Employment Officers.

ACCOUNTANCY

Rates of Pay

Articled clerks in accountancy offices in London often commence at a salary of £4 per week which rises to £7 or more during the 5-year period of Articles; rates are somewhat lower in the provinces.

Most newly-qualified accountants in their first professional appointments receive £750–£900 per annum, a salary-range which covers junior accountants in practising accountants' offices and in commercial or industrial undertakings. Junior accountants in government service are paid between £750 and £1,075, according to their age on entry—the minimum for which is 25 years. More experienced personnel, such as government chief accountants, receive £1,475–£1,620 a year and many senior accountants in industry and commerce have an income of £2,000 or more.

Age of Entry

While professional training for accountancy qualifications may not begin before a candidate has reached the age of 16, most clerks do not commence before the age of 17 years. The period served under Articles (a form of apprenticeship) normally lasts for 5 years but a remission of 2 years may be granted to those who have taken degrees of United Kingdom universities. Full qualification is not normally attained before the age of 22 years.

Educational Qualifications

A candidate seeking to be articled must have been successful at the requisite standard in one or other of certain specified examinations. These include the General Certificate of Education examination which, in order to fulfil the requirements of the Institute of Chartered Accountants in England and Wales, for example, must have been passed at least at "Ordinary" level, in 5 subjects including English language and a mathematical subject. Articled training, and passes in all the examinations of a professional body, must be obtained before an accountant is qualified to take up a professional appointment.

Personal Attributes and Qualities Needed

The aspiring accountant needs ability above the average standard to fit him for the comparatively high position at which he aims in the professional world. Obviously he must possess an "analytical" mind and have a liking for and facility with figures. Not less essential are a good knowledge of English, the ability to speak and write clearly and concisely, and an aptitude for separating the wheat from the chaff in complicated reports and conferences. The accountant needs a detective's faculty for observation, reasoning power and tact, complemented by the absolute integrity of a minister of religion. A high level of general intelligence is perhaps a greater asset than is very specialised talent.

About this Career

Accountancy is concerned primarily with what may loosely be termed the reckoning of financial transactions. It includes the preparation and auditing of accounts; the compilation and agreement of tax assessments with the commissioners of Inland Revenue; matters connected with trusteeship, executorship and bankruptcy; the devising of accounting systems; investigation of accounts on behalf of prospective purchasers, and many other matters.

The accountant's work is carried out in one or other of two main branches of the profession: professional practice or private employment. Accountants in professional practice are employed for a fee as and when their services are required by a particular client, for example a company or firm, for a period of a few days or weeks each year to perform the annual audit of accounts. On the other hand, accountants in private employment are full-time members of the staff of industrial and commercial concerns, national or local government offices and public authorities. Their work may include not only accounting, internal auditing and advising on finance but, also, company secretarial and general administrative duties. So-called cost accountants, in industry, are specialists, their job being the computation of data for the control of costs by the management and for the production of estimates and financial forecasts.

There is wide scope and variety of work within the accountancy profession. Security is assured and prospects are good for advancement although, as in every other profession, there is keen competition for the plum jobs.

How to Become a Qualified Accountant

Training, under the requirements of the Institute of Chartered

ACCOUNTANCY

Accountants in England and Wales, consists of practical work in the office of a qualified accountant and theoretical study for those examinations by means of which admission is gained to the Institute. Qualification for membership may be achieved in one of two different ways.

(a) A university degree and a qualification in professional accountancy can be obtained over a period of $5\frac{3}{4}$ years from certain universities and university colleges. These are: Birmingham, Bristol, Durham (Newcastle Division), Hull, Leeds, Liverpool, London, Manchester, Nottingham, Sheffield, Southampton and Wales (Cardiff). $2\frac{3}{4}$ years of the training period are spent taking an approved degree course of which the main subjects are accountancy, economics and law. The remainder of the time is spent in a professional office gaining practical experience of accountancy under working conditions. Graduates under this scheme are exempted from the Preliminary and Intermediate examinations, but *not* the Finals, of the professional bodies governing entry into the profession.

(b) Articles covering a period of 5 years are entered into with a practising, qualified accountant. In the case of the Association of Certified and Corporate Accountants, and other bodies (e.g. Cost and Works) students are permitted to obtain their practical training whilst employed in industry, instead of serving under Articles, provided that the employment offers accountancy experience of a required standard.

First, the candidate must pass or obtain exemption from the Preliminary examination of one or other of the professional bodies. Pre-entry qualifications, the examinations set and the qualifications obtainable vary from one professional body to another. It is therefore important that the candidate should at the earliest possible moment decide which corporate body he wishes to join and to obtain its specific regulations concerning registration and training. The recognised professional corporate bodies in the field of public accountancy are:

The Institute of Chartered Accountants in England and Wales, Moorgate Place, London, E.C.2.

The Institute of Chartered Accountants of Scotland, 27, Queen Street, Edinburgh, 2.

The Institute of Chartered Accountants in Ireland, 7, Fitzwilliam Place, Dublin.

The Association of Certified and Corporate Accountants, 22, Bedford Square, London, W.C.1.

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The apprentice, during his period under Articles, combines practical work with part-time study at evening classes or by correspondence course for the professional examinations set by the corporate body of his choice. He is at first occupied, under supervision, with mainly routine office work and elementary matters connected with outside audits and investigations. Gradually he progresses to more advanced work, acquires knowledge of the manner in which an audit is carried out, learns methods of dealing with other aspects of professional accountancy and gains an insight into commercial and industrial practices. Concurrently with his practical training, the articulated clerk must study for professional qualifications.

Each of the corporate bodies has its own syllabus for its professional examinations. There is insufficient space here to quote complete lists but the following gives an adequate indication of the range of subject matter in which students are generally required to be examined.

Preliminary Examination: Exemption from this is provided by the General Certificate of Education examination, and certain others, as mentioned above.

Intermediate: Book-keeping and accounts, including limited companies, partnership and executorship; auditing; taxation; cost accounting; and general commercial knowledge, including the elements of English law.

Final: Advanced accounting; auditing, including investigations; taxation; general financial knowledge; liquidation and bankruptcy; cost accounting and English law.

The Intermediate and Final examinations must be taken at specified times, prior to which articulated clerks are released by their principals for several weeks' concentrated study. On successfully passing all the necessary examinations and on completing the stipulated period under articles, application must be made for membership of the corporate professional body concerned. Upon admission, the accountant is qualified to style himself, for example, chartered, or certified, as the case may be, and to take up professional appointments. For the newly-qualified accountant who determines to make his career in industry or commerce, a period of 2 or 3 years spent in the profession after qualification will provide further valuable experience and enable him to command a higher salary in his first commercial position.

Financial considerations for those contemplating training in this profession must take account of several items in addition to living

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expenses. A correspondence course for a complete examination syllabus costs approximately £50, to which must be added another £15 or so for books. Examination fees, which vary between different professional bodies, may total £15 to £20. As an example of the variable charges made on admission to a professional body, the admission fee of the Institute of Chartered Accountants in England and Wales is 10 guineas and the normal annual subscription for a newly qualified member is 5 guineas.

Other Careers

Professional qualification in their own branch of accountancy is obtainable by clerical workers in industry or local government without a period having been served in the office of a professional accountant. This is provided by the following bodies, each of which has a special examination syllabus in its own field and requires candidates to have been employed for a specified period in industrial costing or local government accountancy respectively, in order to be eligible for membership:

The Institute of Municipal Treasurers and Accountants,
1, Buckingham Place, London, S.W.1.

The Institute of Cost and Works Accountants, 63, Portland
Place, London, W.1.

Newly-qualified Chartered or Certified Accountants who take up industrial appointments and wish to specialise in cost accounting may do so by qualifying for membership of the Institute of Cost and Works Accountants. Although such persons must comply with the general requirements already mentioned, certain examination exemptions are granted by reason of their previous qualification.

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Rates of Pay

Salaries are not high for most newcomers to the advertising profession. Juniors working as messengers or clerks—on the first rung of the ladder—start at as low a wage as £3 per week. Trainees for executive positions, in a somewhat better position, receive £350 a year or more and junior copywriters make upwards of £400. It is, of course, merit, coupled with experience, which brings top-level salaries. Production managers, chief space buyers

and space salesmen are usually in the four-figure income bracket. Research executives, chief copywriters and chief art directors or "visualisers" may earn £2,000 a year or more and a top "account" executive in excess of £3,000.

Age of Entry

Most advertising agencies recruit the majority of their staff from amongst school-leavers or those just a little older. More mature and experienced personnel are preferred for certain specialised jobs.

Educational Requirements

Those who enter the advertising profession should first have reached a good standard of general education. It is advisable to have obtained the General Certificate of Education, at ordinary level at least, in four subjects including English. This qualification, or its equivalent, is in most instances required of those taking examinations to become Members or Associates of the Institute of Practitioners in Advertising or Members of the Advertising Association. It is from the ranks of those who obtain these higher qualifications that top executives are usually drawn. Degrees or similar qualifications in such subjects as economics or social science are helpful to, and in some cases required of, research and statistical workers in advertising. Would-be layout artists are usually required to have been trained at least to the standard of the National Diploma of Design, unless they have printing experience or other qualifications.

Personal Attributes and Qualities Needed

Most advertising workers need specialised skills or knowledge. Executives, production staff and research workers need the skill of an accountant when dealing with figures and the ability to think analytically. Layout artists must possess artistic ability and those who prepare advertising texts must be able to write grammatical though cut-to-the-bone English.

These particular abilities aside, it is a youngster's personality, temperament and attitude to life which best indicate his suitability or otherwise for this profession. The aspiring advertising worker needs a sociable temperament, must be pleasant and confident in manner and have a very strong desire for self-expression in some form—in addition to technical ability. He must be enthusiastic, imaginative and possess a fertile, versatile mind. He will need both critical sense and balanced judgement. Originality, adaptability

and alertness are essential when a writer is allowed only three words instead of the usual thirty to make the public view an old, familiar thing from an entirely new angle!

The requisite aptitudes and ideas cannot be grafted successfully on to unsuitable stock; no amount of training will compensate for lack of "flair." It is only this, plus merit, plus hard work, that bring opportunity and success in this extremely competitive profession.

About this Career

The advertising profession, like an octopus, spreads its tentacles out to the public from innumerable angles. The columns of the press; hoardings on every street corner and railway platform; theatre programmes and radio stations; cinema and television screens and direct mail; these are but a few of the many advertising media.

Most advertisement material is *not* prepared and presented, as might be supposed, by the individual firms concerned. It is usually the work of advertising agencies. Some of these are very large and complex organisations, dealing in many different channels, for a number of firms offering a wide range of goods or services.

A large agency employs a variety of specialised and general staff. At its head, there are usually directors under whom account executives and their assistants control, amongst other things, internal or associated departments. These may include some or all of the following: (a) A market research section or organisation, of research executives, statisticians, investigators, clerical staff, etc. (b) A media research department consisting of research executives, space buyers and clerical staff concerned with the best means and avenues of approach to potential customers. (c) A copy department, including a chief copywriter and his assistants, who prepare written or spoken advertising matter. (d) A layout department staffed by a head layout designer, art director or "visualiser" and layout artists. This department plans the visual presentation of advertisements which may be produced as "finished" work by staff artists or by outside, free-lance workers. (e) A production progressing department, with technical and clerical staff, part of whose function is to see that everything from every department involved in a particular job is ready on time. (f) A checking and voucher department of head and clerical staff occupied in checking that advertisements appear where, when and how required and, where appropriate, to send voucher copies of published advertisements to their clients. (g) An accounting department

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of account and costing staff, to analyse costs and prepare accounts in the same way as in other businesses.

In small advertising agencies, some of these departments may not be separate but merged one with another, whilst in large agencies there may be additional departments concerned exclusively with advertising in one particular medium, such as television. Looking at the profession as a whole, it is obvious that there is a wide range of activity from which to select a branch in which the aspirant is most likely to "make good." The boy good at expressing himself verbally, with a liking for composition at school, would obviously be most suited to copywriting work. A youngster interested in drawing and painting and having some talent for this work, would gravitate towards the layout or art department.

How to Become an Advertising Executive

Perhaps the most difficult step to take is the first: gaining entry into a profession which, although responsible for a total expenditure in excess of £300,000,000 per annum, actually employs relatively few people. Competition is exceptionally keen and there is a superabundance of young people wishing to enter. Those engaging new staff obviously demand very high standards, and are satisfied with nothing less.

Once entry to the profession has been gained, advertising must be learned through practice, experience and hard work, so the earliest possible start should be made. A youngster is well-advised to obtain, first of all, a post as messenger or clerk with an advertising agency—the larger the better—in order to learn the organisation and routine work in addition to advertising techniques. From this point on, progress will depend upon the individual's aptitude, initiative, observation and capacity to learn. If he has a real flair for advertising, works hard and undertakes additional study in his spare time, he will be selected for training and advancement in a specialised department of the business or as an assistant executive. As has already been mentioned, older recruits are preferred by some firms for jobs such as space salesmanship or copywriting. The former position is one in which printing experience is a great advantage and the latter requires more knowledge of the world and experience than most youngsters are able to offer.

All those who wish to climb high within the advertising world are pretty well obliged to undertake additional spare-time studies at commercial or technical colleges or by correspondence.

Qualifications are awarded as a result of examinations conducted

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by the Advertising Association, 1, Bell Yard, London, W.C.2, and by the Institute of Practitioners in Advertising, 44, Belgrave Square, London, S.W.1. Final examinations are open only to those candidates who have successfully passed the Advertising Joint Intermediate examination which is conducted by the Advertising Joint Intermediate Examination Board. The examination is in nine subjects; English; introduction to advertising and its administration; reproduction; media; advertisement design and presentation; copy-writing; economics in relation to advertising; the law in relation to advertising and psychology in relation to advertising.

Successful students may then go forward to Final examinations.

The Final examination of the Advertising Association consists of: one paper on marketing; one paper on market research; two papers on campaign planning and the principals and practice of advertising. The Final examination for membership of the Institute of Practitioners in Advertising consists of: the theory of advertising; problem analysis; market and media research; preparation for marketing; sales organisation; merchandising; demonstrations and exhibitions; campaign planning; financial advertising; the law relating to advertising, and the advertising agency.

A category of Associate Membership of the Institute of Practitioners in Advertising caters particularly for those in specialist branches of advertising. These are: market research; copy; design; mechanical production and printing; press media; outdoor advertising; public relations in agency practice; television, cinema and radio; overseas advertising and financial advertising. The Association Membership Final examination consists of one paper in campaign planning and agency administration and 2 papers in the individual's special subject.

Other and Allied Careers

Experienced advertising executives are from time to time appointed as public relations officers and information officers. Government Departments, including the Civil Service, appoint a very limited number of sociologists, economists, statisticians, interviewers, etc., from amongst those possessing advertising experience.

AGRICULTURE

Rates of Pay

The statutory minimum rates of pay for agricultural workers at present range from 73/6d. per week at the age of 15–16, up to 160/- per week at the age of 20 and over, wages fixed by the Agricultural Wages Boards and published in their orders. These sums cover a specified number of hours per week, distributed over 5½ working days, and a higher rate of remuneration is decreed for work at week-ends or on public holidays. Every agricultural worker is also entitled, by the same authority, to claim up to 12 days of paid holiday each year.

Most head herdsmen, horsemen, etc., key personnel with more work to do or responsibility greater than that of the general worker, are paid in excess of the obligatory minimum.

Still higher up the ladder, farm managers receive upwards of £600 a year; many in charge of large farms or estates have an income in the four-figure bracket, in some cases supplemented by rent-free accommodation.

General or specialist advisory officers, teachers, research workers and others in agricultural or allied jobs for which technical qualifications are required may receive anything from £600 to £2,000 or more per annum, according to their specific occupation.

Age of Entry

Boys with a country background and a determination to take up agricultural work are, by the time they leave school at the age of 15 years, sufficiently knowledgeable about farm life to be worth the minimum rate of pay or, at least, their keep and pocket money as pupils. Many such boys, immediately on leaving school, begin wage-earning under a local farmer whom they have helped previously at week-ends and holiday times, and may or may not later take technical qualifications. Town boys with little or no experience of agricultural life usually find it easier to gain admission to the profession through the agency of private pupilship or certain preliminary apprenticeship training courses. Such avenues are open to suitable boys aged 15 to 17½ or 18 years. Still within this age-range for acceptance, boys may take formal training (after practical

AGRICULTURE

experience), in the form of a one-year course at a Farm Institute. College training courses, usually of two years' duration, may be begun at the age of 17–18 years. For university degree courses, most of which last for three years, the minimum age of entry is 17 years, although most students are not accepted before they have reached 18. It is usually necessary for students to have had at least one year's practical experience of farm life before taking formal training of this kind.

Educational Requirements

Experience is the most important asset to be acquired by the general farm worker. No specific qualifications are required of him at the moment, although more and more value is placed by employers on some previous history of technical training.

Technical training is, however, essential for the boy who intends to rise to one of the plum jobs in the profession. To fit himself for this end the boy should start thinking about formal educational requirements whilst he is still at general school. An entrant to a university for the purpose of taking a degree in agriculture is required in most cases to have reached the matriculation standard of the university concerned or to have passed the General Certificate of Education examination at advanced level in certain subjects. Students at most colleges of agriculture are required to hold the General Certificate of Education with certain specified passes at least at ordinary level.

Details of the precise regulations and requirements governing entry to the particular university or college selected for later training should be obtained at the earliest moment from the governing body concerned, so that suitable preparation may be made.

Personal Attributes and Qualities Needed

The main qualifications for a career in agriculture are the ability to work hard and long, coupled with a certain, sure, dedicated liking for all aspects of farming life, based on judgement as a result of practical experience. The agricultural worker must take the rough with the smooth, in good weather and bad, for better or for worse. His is not exactly a life over which to rhapsodise and romanticise. It is by no means all "happy days in the harvest field, fair days spent guessing the weight of prize pigs, mornings devoted to hunting rats or rabbits and nights to the teasing of village maidens." It is hard, tough labour hoisting wheat sheaves on to a corn stack from

dawn to dusk; wielding a bill hook with freezing fingers to top-and-tail sugar beet on an icy morning, or mucking-out bullock yards or ditch bottoms.

Not that all agricultural jobs are unpleasant—some are the envy of white-collared workers—but work on the land as a whole needs strength, energy, patience and similar sterling qualities. The present-day agricultural worker needs brawn, but brain also to understand farm animals, complicated reports or the latest scientific aids. He must have intelligence to cope with a complex and, in many cases, precise job; a sense of responsibility when working on his own, and good judgement and a cool head in the face of emergency.

The higher the agricultural worker climbs within the profession the more he needs these and additional qualities. Farm managers, bailiffs and advisory officers need business sense, organising ability to plan operations seasons or years in advance and an overall understanding of the agricultural industry and everything related to it. The dim-witted rustic, the cabbage with straw in his hair and not a thought in his head, is a product of sophisticated imagination.

About this Career

Agriculture, one of Britain's most important industries, employs many thousands of skilled workers in the direct or indirect production of foodstuffs of vegetable and animal origin. Farming (horticulture is dealt with separately elsewhere in this book) is of many different kinds and types which vary from area to area under different conditions of climate, soil and related factors.

The majority of holdings, those known as "mixed farms", are represented in almost every county, however. These, which may be likened to general stores, are concerned with the production of a greater or less range of a variety of foodstuffs such as milk, meat, eggs and birds, cereal and root crops, etc. Yet other specialised farms, which like the mixed type range overall from 80 to 1,000 or more acres in size, are given over largely or wholly to the production of pigs or poultry, to dairy or sheep farming, to the growing of potatoes or other individual crops.

Agriculture, as an industry, an art and a craft combined, is fairly well organised. Much of the nation's farmland is, for good or ill, mechanised and worked on modern principles in line with the latest scientific developments and discoveries. Agriculture is no longer for the clod-hopper on the one hand and the dilettante gentleman on the other. It is, rather, one of the most important and worth-

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while of all occupations in a world which may well find that its fight for survival is not concerned with nuclear warfare but with matching food supplies to the stampeding birth-rate. Agricultural work is second to none as an occupation of national importance; in the long run, either we grow food or we starve, for most of the food and other commodities we use comes directly or indirectly from the soil.

Training facilities within the industry are not bad although these could be distinctly better. Prospects are good for the right type of skilled and trained worker, although pay at the lower levels is by no means generous. There are opportunities for general work or specialisation with machinery or in particular types of culture or husbandry for those with a particular "bent". There are not many good managerial and other supervisory posts actually in farming or allied services and research. Competition is very keen for well-paid posts but qualities of perseverance, ability, experience and ambition usually pay off in the long run. "Becoming a farmer" is an expensive and chancy business for those without unlimited capital but a keen worker may if he wishes climb to an important post which is rewarding both materially and spiritually.

How to Become an Agriculturist

In very many cases a boy's first introduction to agriculture, and some rudimentary training in certain farming operations, can be obtained during school life and at holiday times. The town boy, although one jump behind his country cousin who has been familiar from birth with farming life, may nevertheless be able to take in his school examinations subjects such as botany, biology, chemistry, etc., in preference to others which would be less useful to him later on. School farms are increasingly becoming a part of the educational system; working holidays may be spent in the country and Young Farmers' Clubs may be joined in both town and country places alike.

The boy determined to become an agricultural worker should, on leaving school at the age of 15, first seek to gain practical experience on a farm—preferably a mixed farm even though he may later wish to specialise. To find a farm for such a purpose is not always an easy matter. The country boy usually gets to know of local opportunities in this connection but the town boy may well have to seek outside assistance in taking this first very difficult step into the agricultural profession. In general, his best chance lies in taking advantage of one or other of certain apprenticeship training schemes.

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Two official apprenticeship training schemes operating in Britain—one covering England and Wales, the other for Scotland—cater for boys between the ages of 15 and 17½ years. Selected applicants who are intelligent, generally able and successful in interviews with a selection committee, are sent for training on approved farms. Each individual apprentice, or his parents, must usually find suitable living accommodation although official assistance will be given if required.

The trainee, during his apprenticeship which lasts for three years, receives a wage according to regulations laid down by the Agricultural Wages Board. His training on the practical side may be occupied with farm husbandry or as a dairyman, horseman, tractor-man, etc. It also includes theoretical instruction in classes run by the local education authority, which may occupy up to 80 days during the first 2 years of the training period. Local Youth Employment Officers will provide full details of these apprenticeship schemes.

Entry of some boys into agriculture is assisted by the "British Boys for British Farms" training scheme operated by the Young Men's Christian Association. Selected boys, aged 15 to 17 years, are based for 8 weeks in a Y.M.C.A. hostel and trained on selected farms. Successful students, who as a result of this short introduction to agricultural life decide that they definitely wish to take up farming as a career, are found employment on suitable farms and supervised and helped in various ways for a further period of 2 years.

Of course, it is possible for some boys, of town as well as country origin, themselves to find farmers who are willing to accept pupils for training. Additional help where required in making the transition from school to farming life may be sought, however, from County Education Officers, the principals of Farm Institutes or from local Youth Employment Officers.

Once practical farm experience of not less than a year's duration, and preferably more, has been gained, it is advisable—though not essential—to take further technical training. Everyone who is to succeed in an agricultural career requires at least to be familiar with modern methods, for mechanisation and science in other forms are now integral parts of farming practice. It is advisable for all workers to have some technical training which, if it does nothing else, will equip them to keep abreast of events in the rapidly changing agricultural world.

The 33 different Farm Institutes in England and Wales, operated by County Councils, cater for residential students aged 18 or 19 who

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have had previous practical farm experience. Institute pupils are trained in general agriculture of the type prevailing in the county or may undergo specialist training courses in dairying, poultry husbandry, etc. A previous school background of instruction in biology, chemistry, etc., is an aid to the student who must be able to take notes intelligently and benefit from the course.

Fees charged for Farm Institute courses, inclusive of residence costs, vary between £100 and £250 a year for the student residing in the home county of the particular Institute he attends, and between £180 and £260 for the student from outside the county.

Part or all of the cost of training can in most cases be offset by grants from local education authorities, the precise amount of financial help given being dependent upon the circumstances of the student's family. The sons of agricultural workers, or those who have been employed in agricultural work for at least 3 years, may apply for scholarships awarded annually by the Ministry of Agriculture, Fisheries and Food. Details of these scholarships may be obtained from the Ministry or from local education authorities.

The highest technical qualifications in agriculture and related subjects are awarded to students of colleges of agriculture and certain universities. In general, the higher the qualification obtained the greater is the range of occupation open to the holder—although no technical qualification is ever a sure-fire guarantee of employment. Degree or diploma qualifications are usually required of those in important agricultural jobs and one or other should be aimed at in view of the ultimate position which the youngster intends to reach. Advisers employed by the National Agricultural Advisory Service, teachers, etc., are usually holders of degrees from university schools of agriculture, and advisory or research specialists are required in most cases to hold an honours science degree. A national diploma open to students of an agricultural college, or a degree, is a definite asset to the potential bailiff or manager, particularly of a large farm or estate.

Most ordinary degree courses at university last for three years, cover the study of such subjects as botany, agricultural chemistry, etc., and include not only academic instruction but practical demonstration and experimental work on farms. Post-graduate courses of one year's duration allow specialisation in agriculture, agricultural science, pure science or economics. Certain universities offer degrees in dairying, poultry husbandry, etc.

The annual cost of training at university level is in the region of £250 to £350 per year. Potential undergraduates may be able to

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defray at least part of the cost of training by means of scholarships awarded through the local education authority by the Ministry of Agriculture, Fisheries and Food.

Agricultural colleges offer to students, aged 17 to 18 years on enrolment, diploma courses of 2 years' duration, during which the accent is placed on practical rather than academic work. Training includes the study of chemistry and other subjects related to agriculture, farm management, agricultural engineering, etc. £300 to £350 is the approximate annual cost of study at agricultural college, toward which grant aid may be obtained in certain cases by means of scholarships awarded by the Ministry of Agriculture, Fisheries and Food through the agency of the local education authority.

A young man, on completion of his technical training, should not have serious difficulty in obtaining satisfactory employment, with prospects, although even the holder of a university degree should not immediately expect to become the manager of a large estate. Those in charge of supervision or training usually give additional help in finding the right opening. From this point onwards, progress will depend upon the worker's own initiative and ability, and his willingness to go on learning—an agriculturist must continue to learn until the day he dies. In general farming life there is no substitute for experience and it is the knowledgeable and reliable worker with technical qualifications of a high order and years of practical experience in subsidiary positions who gets the opportunities to move up, first to key jobs, then to even more important posts such as those of foreman, bailiff or farm manager, with greater responsibility and proportionately higher wages. Competition is very keen at the higher levels, of course, and the range of opportunity becomes more restricted.

In farming life, perhaps the most difficult thing of all is actually to become a farmer—the owner of a farm. Successful farming, like all skilled occupations, requires a great deal of experience and knowledge but, also, a large capital reserve. It is not easy to save out of the minimum agricultural wage the several thousand pounds needed to start from scratch on a decent farm. However, this should not be allowed to discourage a boy who has not exceptional prospects of later inheriting a farm or of having sufficient capital for such an important venture as soon as he is ready for it. Renting a farm is a good alternative to ownership. Hope is a great spur and if every chance is grabbed to rise as high as is possible within the agricultural profession generally, there are increasingly good prospects of attaining the ultimate goal.

ARCHITECTURE

ARCHITECTURE

Rates of Pay

The starting salary of an assistant to an architect in private or commercial practice depends upon the standard he has reached on entering the profession. An assistant who has attained the level of the Intermediate examination of the Royal Institute of British Architects, before starting salaried work, receives approximately £650–£700 per annum, and an assistant of Final R.I.B.A. standard in the region of £900. More experienced assistants, usually those possessing a professional qualification, make £1,000 to £1,500 or more a year.

Most chief architects employed by local authorities are paid upwards of £1,500; some, in particularly important districts, make about £3,500 annually. Architects employed by government departments, in the professional grades of the civil service, may finally reach a salary of £3,000 or more. Teachers of architecture in colleges and art schools are paid on the Burnham scale of salaries for teachers in establishments for further education.

Age of Entry

The majority of students begin professional studies at the age of 17–18 years. Most study full-time for 5 years in order to qualify at the earliest possible moment, take their Final examinations and begin their earning life in architects' offices when they are 22–23 years old. Some students, those who combine practical work with part-time study only for professional examinations, qualify at a later date.

Educational Requirements

Candidates for professional examinations must first have been successful in one or other of certain preliminary examinations recognised as pre-entry qualifications. These include the General Certificate of Education which, if offered in this particular instance, must cover English (language) and elementary mathematics and either (a) 3 subjects from the following list if all 5 subjects are taken at the "Ordinary" level, or (b) 2 of the following if one or more subjects are taken at "Advanced" level: a modern language other than English; physics; chemistry; physics with chemistry;

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mechanics; mechanical science or applied mathematics; general science; history; geography; economics; Latin; Greek; English literature; art; pure or pure-and-applied mathematics at "Advanced" level, or any mathematical subjects at "Ordinary" or "Advanced" level except elementary mathematics, arithmetic or applied mathematics.

An architect must have passed one of the professional examinations recognised by the Architects' Registration Council of the United Kingdom, and be registered with this Council, before he is entitled to practise under the title of architect.

Personal Qualities and Attributes Needed

Possible suitability for a career in architecture may be indicated by many different aptitudes, qualities and traits, on both the imaginative and practical sides. Good indications are: artistic ability above average, when it includes a liking for perspective drawing and modelling, an original and creative feeling for design, and skill at drawing accurately and in detail. Other good pointers are: an observant interest in surroundings and curiosity about practical details such as building operations and constructional work. The promising youngster usually exhibits a reasonable degree of aptitude for applied mathematics, including geometry, and is not only neat and precise in his work but, also, imaginative and exploratory in mind.

To succeed and be happy in this profession—one in which a large measure of team-work is essential—the individual must be co-operative and able to get on well with all sorts and types of people. Personality and business acumen are of particular importance to those architects who ultimately set up in private practice.

The aspiring architect must be intelligent, alert and reliable. He must be physically robust in order to survive long hours on rain-and-wind-swept building sites, and have eyesight good enough to sustain him through protracted periods of delicate, detailed work at his desk and drawing board.

About this Career

The function of an architect is to design and plan structures and edifices of various kinds—everything from cottages to cathedrals—and to superintend their erection. Such work obviously necessitates extensive knowledge of practical as well as theoretical matters.

An architect is responsible for the production of working drawings and blueprints from his original designs; for the drawing up

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of specifications and agreements; for the surveying of building sites; for the engagement and workmanship of a contractor and various sub-contractors concerned with heating, lighting, floor finishes, etc.; for the selection of building materials and special installations. He must have a wide knowledge of design and construction in relation to building, and those allied trades connected with it. An intimate knowledge of building materials is required of him and he must be familiar with past, present and future trends in architectural style. The architect must be an all-seeing eye: ever ready with an answer during conferences with his client and colleagues, and able to cope with those unforeseen technical difficulties and other problems which arise from time to time.

An architect in private practice will usually delegate much of the work to his assistants; this may be concerned with surveying a site, preparing plans or supervising building operations. In the architect's department of a local authority, architects and assistants often work in groups on a particular project and this gives all those in the team an opportunity to see the job through from start to finish. It is the architect alone who is finally responsible to his client for the wise spending of money and for causing to be produced a building of exactly the right type, style and quality required. (It might be added that an individual architect's responsibility is of the same order even when he is only one of several working on a really big project.)

Architects engaged in private practice are commissioned to design and erect a building or series of buildings for a definite fee, whereas others in this profession work on a salaried basis. Architects are employed regularly by public corporations, such as nationalised industries which erect power stations and similar structures; by local authorities erecting new houses; by government departments putting up public buildings and similar edifices, and by commercial firms owning chains of stores, hotels, public houses, etc. Those architects working for such bodies may be concerned with designing and building new structures or with adapting and modifying existing accommodation. Their work is, on the whole, more specialised than is that carried out by private architects, for salaried workers are employed most often on work connected with one type of building for the production of which they have a particular flair. However, an overall knowledge of general design is necessary, there is sometimes scope for varied work and, usually a much greater degree of responsibility in matters of interior decoration, fittings, furnishing, etc.

Employment prospects are good in both private and public

practice. Salaries are generally of a fair standard and in this very "live" profession there is ample opportunity for architects with real ability.

How to Become an Architect

In order to carry on the practice of an architect it is necessary to be registered as such with the Architects' Registration Council of the United Kingdom, 68, Portland Place, London, W.1. To be eligible for registration it is necessary to have passed the requisite examinations. Recognised qualifications are obtainable through the examinations of the Royal Institute of British Architects, 66, Portland Place, London, W.1, and final degree or diploma examinations of a number of schools of architecture.

Study for the professional examinations may be undertaken over varying periods of time. The best method—it is the quickest—is to study full-time for a period of 5 years, beginning at the age of 17–18, then to take the Final examination and enter an architect's office. This is the recommended method of entering the profession but there are alternatives. A student may, for example study full-time for the first 3 years only, until he has passed the Intermediate examination of the R.I.B.A., then enter an architect's office and afterwards study part-time for his final qualification. Yet again, it is possible to combine part-time study with practical work from the very outset. Each of these two latter methods necessarily involves several years of extremely hard work before qualification—approximately 9 years in the case of those engaged in exclusively part-time study.

Courses of study, full- or part-time, may be undertaken at schools of architecture and at certain technical colleges, polytechnics and schools of art. A period of 3 years' full-time study (or 5 years' part-time) is usually necessary before a student is ready to take the Intermediate examination of the R.I.B.A. To sit for this examination, a student must in any case be at least 19 years of age, possess one of the recognised pre-entry qualifications (such as the G.C.E.) and fulfil certain other requirements. The subjects of the Intermediate examination are: the general history of architecture; the special history of architecture; mechanics and simple structural calculations; design and construction (stage I) and design and construction (stage II).

The Intermediate examination must have been passed by entrants taking the Final of the R.I.B.A., candidates for which have to be aged 21 or over and able to satisfy certain other requirements. The



A stable-lad holding Alexander, one of the Queen's race horses.



Young recruits resting in the lounge of the Metropolitan Police Training School at Hendon.

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necessary standard is usually reached after a period of 2 years full-time study (or 3 years part-time) beyond the level of the Intermediate. The subjects of the Final examination, which is in 2 parts, are: (Part I) design; (Part II) general construction; theory of structures; hygiene and specialised requirements of building; specifications and the uses and properties of building materials, and a thesis dealing with either historical architecture, or science as applied to building, or design (including decoration), or town planning.

Fees for full-time courses of study range from £20 to £180 per year. Premiums are in some cases required of articulated pupils, and living and examination costs must be taken into account by those seeking to enter the profession.

Having passed his Final examination (or a Special Final over the age of 35), the student has still not completely finished his training. (a) He must gain at least 12 months' practical experience (the period will be 2 years from 1962 onwards), unless he is able to prove that he has spent at least 6 years in an architectural office or department. (b) He must then (unless specially exempted) pass an examination in Professional Practice and Practical Experience. When this final hurdle has been cleared, the architect is ready to apply for admission to the Register of Architects and for Associateship of the R.I.B.A.

The architect, duly registered, is now qualified to practise as such. Whatever may be the ultimate aim, it is customary to start as a qualified assistant in a subordinate position and gradually work up to a senior post or partnership, in private or public practice as the case may be. To set up in practice from scratch is often difficult for architects are not allowed to advertise and there must be a wide circle of contacts and definite prospects of work before any degree of success is likely. Many commissions are given as a result of competitions and many architects have established themselves in this way.

Other Careers

Town planning is now considered to be a more or less separate career. It offers scope for architectural talent, in addition to the skill and experience of surveyors and civil engineers. Teaching appointments are many and varied in schools and colleges of art, and technical colleges.

BANKING

Rates of Pay

Practically all bank employees for their first 15 years or so of service, are paid on a wage scale which rises according to age; additional increases are awarded for special merit. The rates of pay are not the same in all types of banks, but the following approximate figures will give an idea of the general level of remuneration.

A 16-year-old "probationer" or junior employee receives in the region of £270-£330 per annum. If he maintains an average rate of progress, he makes between £840 and £910 a year by the time he is 31; if he shows above average ability, he will receive between £970 and £1,040. Beyond this point, his salary will depend largely upon his individual aptitude, progress and position.

A newly-appointed manager of a small branch is paid about £1,500 per year and has good prospects of promotion to higher positions, in head offices or large branches, which carry considerably increased salaries. Many bank employees are paid £2,000 or more a year, and a good number considerably more.

Managerial and executive posts overseas are particularly well-paid. Salaries ranging from £3,000 to £5,000 or more are by no means uncommon, and the recipients may, in addition, be assisted with payment of personal tax, be provided with free or very cheap accommodation and be helped with living costs.

Non-contributory pension schemes are a feature of most banks.

Age of Entry

The minimum age of entry for service in most banks is 16 years, and the majority of recruits are aged between 16 and 18. There is, of course, every reason for starting as early as is possible, yet there is no financial handicap attending later entry. The older newcomer, in accordance with the general rule, is paid in relation to his age from the outset of his service—in other words, the 21-year-old entrant receives from the very beginning more than does the 16-year-old.

BANKING

Educational Requirements

Most banks stipulate that a definite standard of general education must have been reached before acceptance of the applicant for employment or he may be required to pass the bank's entrance examination. An acceptable pre-entry qualification, in most cases, is the General Certificate of Education, at Ordinary level at least, in not less than 4 subjects, 2 being English language and mathematics. A few banks require of their employees that, so far as "schooling" is concerned, they should merely have had a "good, general education" and be reasonably proficient in the English language and mathematics. As pre-entry educational requirements differ somewhat, youngsters who intend to follow a banking career should obtain in good time precise details of the standard which must be attained by would-be entrants to a particular type of bank.

Personal Qualities and Attributes Needed

The professional standing of a bank rests ultimately on the virtues and abilities of its employees, and traditions of honesty, good dealing and trustworthiness are jealously guarded. For these reasons, high standards are required of those who, collectively, handle immense sums of money and are entrusted with the safe-keeping of securities and other valuables of astronomical worth.

It goes almost without saying that every bank employee must possess a fair level of ability and skill and be methodical and accurate in his work. Of the additional qualities and interests needed by those who wish to rise to the heights in this profession, some are inherent in the right type of youngster, others are revealed or must be acquired and developed later, with experience. For example, unquestionable honesty and integrity are required of the bank employee, so also are personal characteristics such as reliability, discretion, courteousness and diligence. There must be in him an abiding desire to acquire knowledge, a willingness to work hard and accept responsibility, and he must be possessed of initiative and a reasonable degree of self-confidence. Sound judgement of character and understanding of human nature will be more and more important to him the higher he rises in his career and he will need to be able to manage and influence people without offending them. He will find it advisable to develop the art of conversation, cultivate wide and varied interests and acquire the art of mixing well with all types of people.

All bank employees are required to pass a medical test for

physical fitness and preferably should be interested in some type of sport.

About this Career

Banking, a service or organisation concerned primarily with monetary transactions, functions in England through the agency of the Bank of England, the large Clearing Banks, Trustee Savings Banks, and the Merchant Banks. (There are also a limited number of foreign banks and others with which we are not concerned here.)

The Bank of England is a central, nationally-owned bank with a head office and 8 branch offices. It is concerned with the issue and distribution of currency, also several other monetary and related matters of national importance at national level and acts as a bank for bankers and for the government. It deals with very few private clients.

The Clearing Banks, few in number, are characterised by each having many branches spread over all parts of the country and by the fact that these cater for ordinary customers with general needs. Their main activities, expressed in the simplest terms, cover the safe-keeping, borrowing, transfer and lending of money. Individual clients deposit or lend money, from the total sum of which sufficient is always available for repayment of those who at any given time wish to cash cheques or to withdraw their deposits or savings, and a certain amount is invested or loaned out on security by the banks. Monetary transactions are effected and facilitated by the use of cheques and most joint stock banks handle securities of various types, undertake the safe-keeping of valuables such as jewellery, deal in foreign currency and negotiate and issue travellers' cheques, etc., etc. There is, of course, considerable variation in function and operations between the various banks, according to the type of business transacted and local and other conditions. The Clearing Banks are by far the largest group and offer much the widest field for employment in the banking profession.

Trustee Savings Banks, of which there are many branches throughout the United Kingdom, function for the benefit of those who have comparatively little money to deposit and, in actual fact, a limit is placed on the amount which may be paid in by any individual client. These banks are also concerned with the issue of National Savings Certificates, the handling of Defence Bonds and Government Annuities, etc.

Merchant Banks, of which there are few, all in London, specialise

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in foreign exchange, the transference of bills of exchange, etc., and are therefore concerned mainly with international transactions although they do handle some general business.

As a whole, banking affords to the right type of person a career of exceptional interest, with opportunities for general or specialised work, at home or abroad, and the chance to rise from the lowest to the highest positions. Prospects are unlimited, working and other conditions are good, pay is especially generous at the higher levels and the profession offers a large measure of security during both working life and retirement.

How to Become a Bank Employee

The first step, say for the youngster aged 16 to 18 years, is to obtain an appointment in a junior capacity in the type of bank of his choice. (For the purposes of the remainder of this section it will be assumed that he wishes to enter one of the Clearing Banks.) To obtain consideration he may take advantage of a personal introduction, respond to an advertisement or a recruitment campaign at his school, or apply direct to the manager of a local branch of one of the Banks.

Acceptance for employment in a bank is usually a matter of selection. Candidates have to provide evidence of general education to the required standard (or undergo the bank's special entrance examination) and submit to a medical examination. The successful applicant, on appointment, starts his career as a "probationer" or trainee, in which category he may remain for a period. He is first employed on routine jobs and given a thorough insight into all aspects of the work of a bank's general office. If he is found to be suitable and satisfactory for banking work, he is subsequently transferred to the permanent staff, may be sent to other branches, and the way is open for him to work for higher positions.

In some banks, practical instruction is given only in the home branch. By others, the newly-appointed probationer is sent to a training centre or staff college for initial instruction in banking procedure and his future duties. He may not start actually working in his own branch of the bank for 2 to 3 months, during which time he receives full pay. Other systems of training are adopted, including later advanced courses for those who wish to undertake specialised jobs in banking, or are about to be promoted to manager.

Apart from being given instruction and grounding in all practical work in the various departments of his home branch, the young

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banker is expected and encouraged to undertake part-time study courses for professional examinations. The professional body with which he is concerned is the Institute of Bankers, 10, Lombard Street, London, E.C.3, membership of which is restricted to those on the staff of a bank.

The Institute of Bankers conducts professional examinations for the Banking and for the Trustee Diploma. Full details of these including exemption qualifications, information on training institutions, etc., can be obtained direct from the Secretary of the Institute. To give some idea of the standard required of students, it should be added that a minimum of 3 years is required to complete either of the named examinations. Successful candidates in the Banking or the Trustee Diploma examinations become Associates of the Institute and are entitled to append to their names the letters A.I.B.

Within the banking profession, promotion comes quickly to the hard worker who possesses all the requisite qualifications and attributes. With every rise in status, there is a corresponding heightening in the interest afforded by the more important job and an appropriate rise in wages. There is wide opportunity for changes in the type of work done, for moves from one branch to another, specialisation in jobs of particular interest and for appointment overseas. The banking profession is truly democratic and the boy who enters it with the right attitude will be enabled to rise just as high as his attributes, abilities and capacity for work will take him.

BARRISTER—The Bar

Rates of Pay

Some barristers, the experienced and eminently successful, attain incomes of several thousands of pounds annually, whereas others make a comparatively meagre living. In terms of financial rewards and security the Bar is a "chancy" calling. Barristers who set up in private practice may for several years, when briefs are few and far between, have to rely on private income or their earnings from subsidiary occupations such as journalism or teaching. Their professional earnings may be small and spasmodic whilst they are building up a practice, a process which may take a number of years.

Age of Entry

21 years is the minimum age for a student to be called to the Bar, but he can join an Inn of Court as a student much earlier.

Educational Qualifications

In order to be eligible for admission as a student in one of the four Inns of Court—an essential preliminary—a candidate is required to have had a broad background of general education and been successful in one of certain qualifying examinations. These include: (a) the General Certificate of Education examination, or its equivalent, acceptable as a pre-entry qualification for admission to a university in England or Wales, and including English and Latin and (b) an examination for a degree at a university, which is recognised by the Council of Legal Education, for this purpose.

Precise details of the qualifying examinations and of regulations which govern the admission of students, are contained in a schedule to the Consolidated Regulations of the Inns. Intending students should obtain copies of this publication from the Council of Legal Education, 7, Stone Buildings, Lincoln's Inn, London, W.C.2, or from the Treasury of one of the Inns of Court.

It is usual for intending barristers to take a university degree course in law before the start of their professional training. A degree is not an essential pre-entry qualification, but it is an advantage.

All would-be barristers in England and Wales, to be eligible for call to the Bar, must keep a number of Dining Terms in person at one of the Inns of Court, pass the Bar examinations and be aged not less than 21 years. They must also be able to fulfil certain other requirements, details of which may be obtained from the Inns.

Those students who attend the Inns of Court School of Law have the advantage of being near to the magnificent law libraries of the four Inns of Court and to the Royal Courts of Justice where they can spend much time usefully observing important cases and learning practice and procedure. In the School, by means of Moots and debates, students are encouraged to develop the art of public speaking. The Inns of Court Students Union, which all students are recommended to join, includes in its activities debates, sports, and dramatic, musical and other entertainments.

Personal Qualities and Attributes Needed

A barrister must be intellectually and mentally well above average and possess important personal qualities in a marked

degree. First and foremost, he must be able readily to assimilate knowledge, properly evaluate relevant and irrelevant points, "see all sides of a question" and make completely impartial decisions. His powers of expression, especially in speech, must be particularly good. A wide and extensive knowledge of the law must be complemented by an understanding of human nature and conduct and an interest in people individually and collectively.

Professional duties at the Bar are exacting and often protracted, to cope with which a barrister must be capable of sustained hard work. Determination and independence, a well-defined personality and a good manner, also a good "public speaking" voice and a pleasant appearance are invaluable assets both in and out of court. Hardly less important than mental stamina is physical endurance through long hours of exhausting work, and perseverance and tenacity are indispensable during the tough, sometimes unrewarding months at the outset of a barrister's career.

About this Career

The Bar is one of the two main branches of the legal profession (the other being solicitorship which is dealt with elsewhere in this book).

A barrister, "one who pleads a cause" in the legal sense, has the right of audience as an advocate at the Bar—in other words: to act as Counsel in the higher courts. He is also permitted to function as a consultant for those requiring specialised advice on legal matters.

Most barristers called to the English Bar concentrate on a particular branch of common law or chancery work, and ultimately specialise in a particular type or types of case. Common law is just what this name implies: law common to the whole country. Chancery work is concerned mainly with matters which are assigned for adjudication to the Chancery Division of the High Court. Some common law barristers practise only in London; others travel on one of the seven circuits and thus practise at provincial Assize Courts, at Courts of Quarter Sessions, etc. Chancery barristers do much of their work "behind the scenes", in chambers as it is called and are seen pleading in court less often than are common law barristers.

A barrister does not normally have direct dealings with his client but is "briefed" by a solicitor acting on the client's behalf. The barrister is paid an agreed fee for the accepted brief, and the building up of his practice, from which results the flow of briefs

offered to him, is as much a matter of personal contact as of professional ability.

The General Council of the Bar is responsible for protecting the interests of the Bar. Each Inn of Court exercises disciplinary powers. The rules of the profession are many and varied so as to safeguard the present high standards of conduct.

Barristers, newly qualified, usually try the great adventure of private practice but some seek employment in many different types of organisation. Irrespective of what financial and other success may be achieved later in life, an independent income is very desirable at the outset of private practice.

There are nearly 4,000 barristers in England and Wales, all-told.

How to Become a Barrister

For those who have the necessary pre-entry qualifications already mentioned, the first step is to obtain admission to one of the four Inns of Court: Lincoln's Inn, the Middle Temple, the Inner Temple and Gray's Inn. Each student, after admission to an Inn of Court, must "keep terms" for a stipulated period. He must dine in the Hall of his Inn on the minimum number of days each term specified for him (3 days in some cases, 6 in others), usually for 12 terms over a period of 3 years. The student member must also study for the subjects of the professional Bar examinations. Such study may be undertaken (a) at the Inns of Court School of Law, in London, where lectures and classes are presided over by eminent barristers; (b) at certain universities, or (c) privately.

All students before call must pass the Bar examination, which is in 2 parts. Exemption from Part I of the examination, wholly or in part, may be granted to university graduates in law. Part I of the examination consists of 5 subjects: (1) Roman Law; (2) Constitutional Law and Legal History; (3) the Law of Contract and Tort; (4) the Law of Real Property, or Roman-Dutch Law, or Hindu and Mohammedan Law, and (5) Criminal Law. Of these 5 subjects, all, some or 1 only may be taken, at a time, subsequent to a candidate having been admitted to an Inn of Court.

Part I of the examination must have been passed and 6 dining terms kept before a candidate is eligible to sit for Part II. The 5 subjects of Part II, all of which must be taken on 1 occasion, are: (1) Common Law; (2) Equity; (3) Civil and Criminal Procedure; (4) Evidence and Company Law and (5) any two of the following: (a) Practical Conveyancing, (b) Divorce (Law and Procedure), (c) Conflict of Laws, (d) Public International Law.

MODERN CAREERS FOR BOYS

When a student has passed the Bar examination, is aged 21 years or over, has (in most cases) kept 12 dining terms and fulfilled certain other regulations laid down by the Inn of which he is a member, he is eligible to be called to the Bar.

The total cost of training for and admission to the Bar is made up of several expense items. The sum of approximately £50 which must be paid on admission to an Inn of Court, covers tuition at the Inns of Court School of Law. Certain other sums, including dining fees, are also required. University courses cost approximately 35 guineas a year, to which must be added living costs and expenses. Examination fees are over £11, and on call to the Bar a fee of £62 must be paid.

Grant aid towards the costs of training may be obtained by law students through the agency of scholarships and prizes awarded by the Inns of Court, the Council of Legal Education or certain universities. Allowances are made by some local education authorities.

Immediately on qualification, it is necessary for all barristers who propose to practise in England or Wales to "read in chambers", most often for a period of not less than 1 year, for which a fee of £100 or more may be charged. The purpose of "reading in chambers" is to gain practical experience in the capacity of an assistant to a practising junior barrister. During the agreed time the pupil works under the guidance and supervision of his principal. With the approval of the Benchers of his Inn a barrister may take, as an alternative to reading in chambers, a course of practical professional training held by the Council of Legal Education; or he may both take the course and read in chambers.

When he has gained experience, the barrister may further his career in several different ways. He may found a new practice of his own, in which case he must be prepared for it not to make a profit for some years. After 10 years in practice he may, if very successful, apply for "silk", that is, seek to become a Q.C. This additional qualification enables him to aim at important posts, such as that of a Judge. Members of the English Bar are also appointed as Recorders, Coroners, Stipendiary and Metropolitan Magistrates, etc.

Many barristers enter the civil service, the colonial legal service and local government service. Posts for which legal training is a high qualification or a great asset include those in industrial and commercial concerns, insurance companies, etc., and teaching in universities.

DENTISTRY

divisional posts are paid at the rate of £1,790 to £1,845 per annum and Principal or Chief Dental Officers receive a minimum of £1,900. Salaries paid to the various grades of dental officers in the Regional Hospital Board Service under the National Health Service Act normally range somewhat higher than those of comparable grades in the Local Authority Service. Consultants (whole time) aged 32 or over in the hospital service have an income between £2,293 4s. 0d. and £3,385 4s. 0d. a year. Dentists in private practice have variable incomes, in most cases not below a four-figure level.

Age of Entry

Entrants to dental schools must be aged 17 or over. Degree or Licentiate courses last for a minimum of 4 years, after 1 year devoted to the preliminary sciences (physics, chemistry and biology).

Educational Requirements

Students wishing to undergo dental training for a degree or diploma must first have obtained certain pre-entry qualifications. Precise details of the expected standard of general education which must have been reached can be obtained from the university or other licensing body concerned. Intending students must, however, have been successful in the following tests:

(1) The General Certificate of Education examination at a specified standard, or some other general education examination equivalent to the university entrance examination and acceptable to the licensing corporation or university concerned. (2) An examination or examinations in biology, physics and chemistry (physical, organic and inorganic, set or approved by the specific licensing body).

A recognised dental degree or diploma must be obtained and the qualified dentist then be registered in the Dentists' Register (an essential for entering the private practitioner service of the National Health Service) or in the Medical Register. Registration is restricted solely to the holders of degrees or diplomas and only those so registered are permitted to practise dentistry.

Personal Attributes and Qualities Needed

Interest in "poking about in other people's mouths" is by no means the only personal qualification needed by the aspiring dentist! A boy wishing to take up this profession must be physically fit, have first-class eyesight and be manually and mentally dexterous. A

minor disability of the lower limbs is not a definite disqualification but the arms and hands must not be incapacitated in any way. An equable temperament coupled with an understanding and sympathetic personality are invaluable contributions to a good bedside—or, rather chairside—manner.

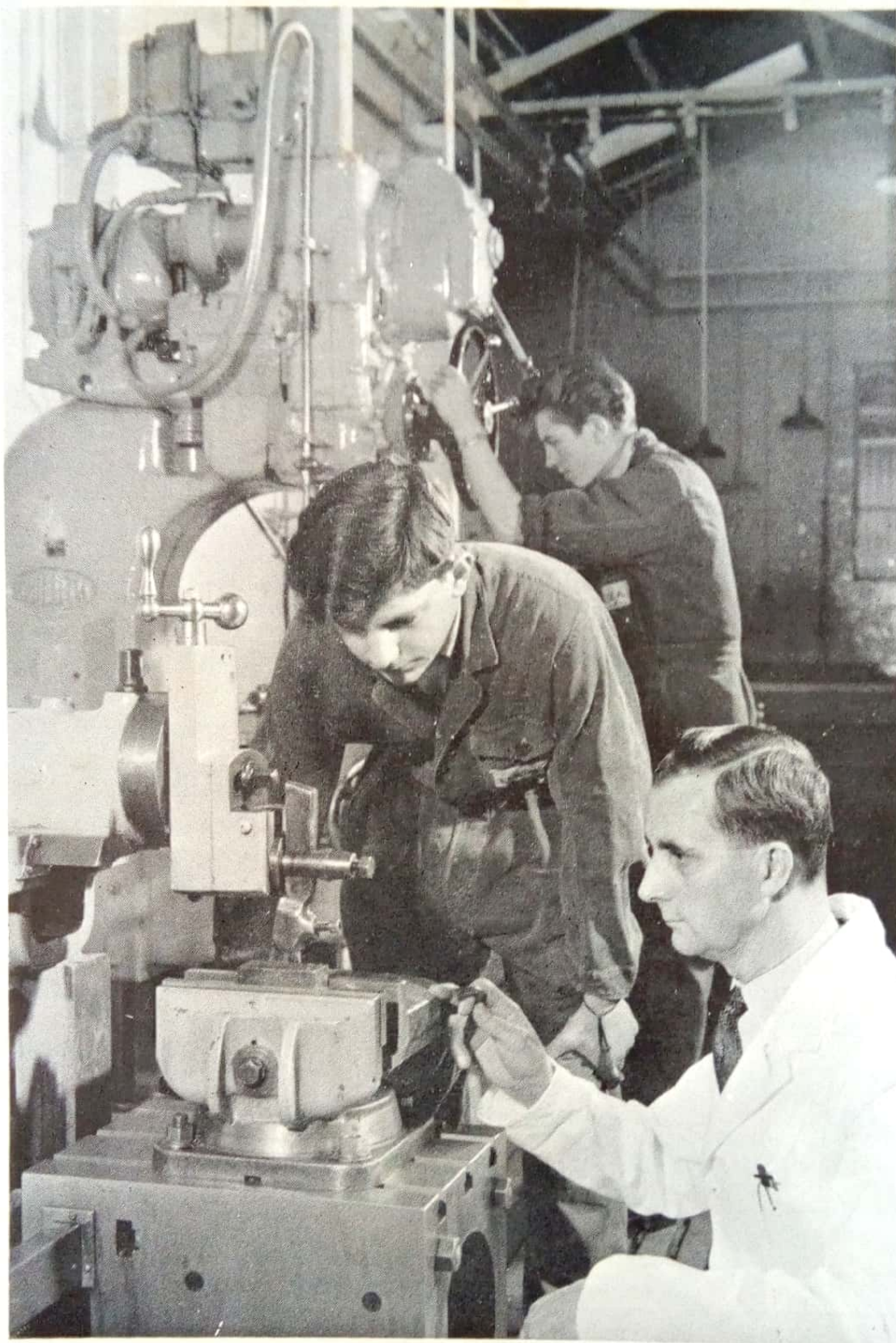
About this Career

The registered dentist—unlike his pliers-wielding antecedent—is obliged to have an understanding of the basic principles of medicine and surgery as well as specialised knowledge of all matters related to the cure of oral afflictions. He must be qualified to diagnose and treat all troubles of the teeth, gums and jaws. His skills must include the filling, “crowning” and extraction of teeth; dealing with fractures of the jaws and pathological conditions of the gums; the administration of anaesthetics and knowledge of and responsibility for the fitting and building of artificial dentures and other appliances for the mouth.

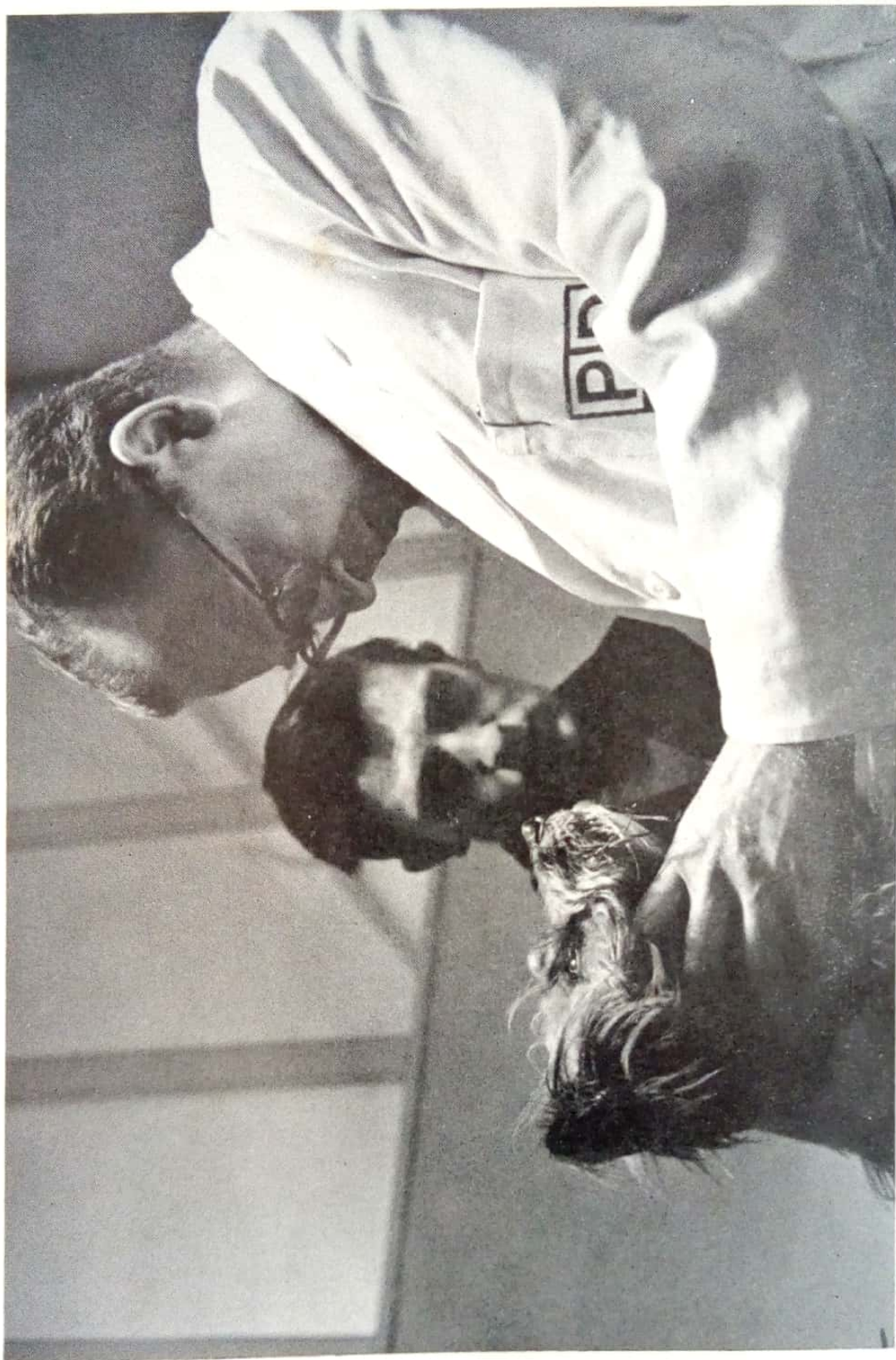
Modern dentistry is concerned, of course, not only with the cure of diseases and defects but with the conservation of the teeth and the avoidance of dental troubles. Dentists interested in remedial or preventive work, or both, are at present far fewer in number than the jobs waiting to be filled in this seriously understaffed profession. Waiting lists of patients grow ever longer. There is an abundant opportunity for general dental practitioners in the dental services provided by the National Health Service. There is ample room for consultants, research workers, those who are specially suited to the treatment of children, teachers up to professorial level and for dentists in Her Majesty's Forces and in the Colonial Service. Training is long and by no means cheap but money spent on qualification is a good investment for the ever-increasing demand for dentists ensures both security and a good livelihood.

How to Become a Dentist

Having reached the necessary standard of general education, the intending dentist must attend the curriculum of a degree or diploma course in dental surgery at one or other of the approved dental schools (including university schools). A warning must be given that at present there are not nearly enough “places” in the dental schools to accommodate all those who want to become dentists. For every student accepted for training, at least two applications are rejected. Study is divided into pre-clinical and clinical periods. Pre-clinical study, designed especially for dental students, lasts for



Apprentices working in a Training Shop of the United Kingdom Atomic Energy Authority.



A veterinarian examines a patient at the People's Dispensary for Sick Animals.

By Courtesy of the P.D.S.A.

DENTISTRY

a minimum of three academic terms. It covers anatomy, physiology and histology, in which subjects the student must satisfy the examiner before proceeding to clinical training.

Clinical studies last for not less than two-and-a-half years, during which time the student must attend the practice of a dental hospital or the dental department of a general hospital recognised by a Licensing Body as being part of a dental school. The student undertakes courses of instruction in the following subjects: dental mechanics and the properties of dental materials; dental prosthetics; bacteriology; general pathology and the pathology of the teeth; medicine; surgery; pharmacology and therapeutics; conservative technique (including operative technique); oral surgery (including extraction of teeth); anaesthesia; anatomy as applied to dentistry; paradental disease; orthodontics, preventive dentistry; radiology and the legal and ethical obligations of registered dental practitioners.

The curriculum for a recognised degree or diploma in dental surgery lasts for a period of at least 4 years. The Final or Qualifying Examination is for a degree in dental surgery (e.g. B.D.S.), a diploma as Licentiate in Dental Surgery (L.D.S.) granted by a University, or a diploma (L.D.S.) issued by one of the other licensing corporations. The licensing corporations are:

The Royal College of Surgeons of England, Lincoln's Inn Fields, London, W.C.2.

The Royal College of Surgeons of Edinburgh, 18, Nicholson Street, Edinburgh.

The Royal Faculty of Physicians and Surgeons of Glasgow, 242, St. Vincent Street, Glasgow, C.2.

The Royal College of Surgeons of Ireland, St. Stephen's Green, Dublin.

The holder of a recognised dental degree or diploma is entitled to begin practising dentistry as soon as he has been registered—as mentioned above—by the Registrar of the General Dental Council. Post-graduate training is undertaken by many students, of course.

Tuition costs vary but it has been estimated that £500-£600 would be the minimum cost of training and examination fees and of instruments and materials. Maintenance expenses might well be in the region of £170-£275 per annum, depending whether the student resides at home or in college. In addition to tuition and examination fees, the dental student has also to face the cost of various special instruments (e.g., microscope, etc.), and books, which are almost

MODERN CAREERS FOR BOYS

sure to be within the range of £100-£150. In some dental schools instruments may be hired and books purchased second-hand.

Students possessing the requisite scholastic ability may obtain state and other grant aid towards the cost of training. Certain state scholarships, available to students normally resident in England or Wales and tenable at universities for degree courses, cover the costs of approved fees and maintenance—less other grant aid which may be received and contributions required to be made by the student's parents or guardians. University open scholarships and other awards are made by universities and individual colleges. Local education authorities also award scholarships and other aid is given by various bodies, including the governors of some endowed schools. Grants may be obtained by some members or ex-members of H.M. Forces.

Further information concerning dentistry as a career can be obtained direct from The Secretary, The British Dental Association, 13, Hill Street, Berkeley Square, London, W.1.

ENGINEERING

Rates of Pay

The engineering profession as a whole has many specialist branches and wages vary considerably from one to another of these. Remuneration is generally not high in the lower grades of employment but there are good prospects for suitably qualified personnel. An engineer in his first professional appointment may receive £600-£800 a year and, having gained experience and knowledge over a period of some years, may rise to an annual salary of approximately £1,300. Some engineers earn more than £2,000 per annum and a small minority, the eminently successful, reach exceptionally high salaries. Pupils and apprentices are usually paid a small salary, not charged a premium as in former days.

Age of Entry

Various means of entering the profession are open to boys who attend school until they are aged between 15 and 18 years. In some cases, wage-earning as an apprentice or trainee is possible from the

ENGINEERING

very beginning; in others, full-time study may occupy 3 or 4 years after leaving school at the age of 18 years.

Educational Requirements

A school-leaver aged 15, with an ordinary educational background, may enter engineering and become a skilled craftsman. However, he is unlikely to rise higher than the position of workshop superintendent or foreman. A secondary technical school education, from the age of 11 or 13 to 15 or 16 years is a considerable asset.

The older boy, who aims to become a fully-qualified professional engineer, with the sky as his limit, should have a good education, preferably with a scientific bias. He will need, as a preliminary qualification for higher professional training, the General Certificate of Education or some equivalent award. The G.C.E., as a pre-entry requirement for university or college courses, must usually have been obtained in appropriate subjects at ordinary level at least by 16-17-year-olds, and at Advanced level in certain subjects by 18-year-olds. The subjects taken should generally include English, mathematics, physics and probably another language.

A university degree Dip.Tech.(Eng.), a college award, is to all intents and purposes an essential for all professional engineers of the highest grade.

Personal Attributes and Qualities Needed

The boy most likely to be successful in this profession invariably has an absorbing interest in engineering and mechanical things, coupled with good mental ability and a liking for mathematics, science and similar subjects at school. He is a factual as well as an imaginative type, always concerned with the "how" and "why", who thinks logically and constructively. Practical difficulties do not deter but, rather, bring out the best in him. He should be determined, resourceful, inventive and tenacious. He needs a pleasant manner and personality, for he will later have to work under varied conditions and with all types of men. Physically he must be strong and his stamina good under mental strain.

Most engineers are specialists, individuals of one type or another who need particular attributes to fit them for their special branches of the profession. For example, the research engineer, in addition to possessing some of the qualities already mentioned, must be "scientifically minded", have an enquiring outlook and in other respects be suited to his exacting occupation.

MODERN CAREERS FOR BOYS

About this Career

The term engineering is collective and covers many divisions and sub-divisions of specialisation. Branches of the profession include: civil engineering (roads, sewage disposal, water supply, railways, etc.); electrical engineering (power generation and supply, heavy manufacturing, telecommunications, etc.); mechanical engineering (aeronautics, armaments, heating and ventilation, locomotion, etc.), mining engineering, chemical engineering, etc., etc. Most of these different classifications are very closely allied and in many cases their functions overlap.

Engineering in its widest sense is of ever-increasing importance in this modern age. It influences almost all phases of our existence and, as an industry, affords employment to thousands of skilled workers. These include not only craftsmen and technicians such as mechanics and electricians but, also, research engineers, designers, production staff, technical salesmen, works engineers, consultants and many others. A single engineering firm or works may employ personnel in all or many of these classifications, and a good deal of team-work is involved.

With greater and greater reliance being placed on machines, mechanical aids and other engineering products and processes, there is likely to be a continued high demand for qualified personnel. Although pay is not always as generous as it might be, many engineering workers are now getting a better deal than ever before. The industry is, in its various parts, well-organised, with trade unions and many professional associations and institutions, and good training systems.

How to Become an Engineer

There are several different ways in which a youngster, according to his age, circumstances and aims, can start a career in engineering.

A boy who leaves school at the age of 15 may obtain work in an engineering firm or works and thereafter combine practical work with part-time study at a technical college or evening institute. With perseverance he may work his way up to good positions, short of professional status. Better prospects are open to the youngster of 15-16 years of age who has had technical and general instruction over a period of 3 to 5 years in a secondary technical school. He may become either a so-called craft apprentice or a student apprentice, in an engineering works. If the former his training will be practical and with the aid of part-time study he will have the opportunity eventually to become a skilled craftsman. The student

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apprentice, on the other hand, is given wider opportunities of learning with professional status in view. He is usually allowed a day or more each week for attendance at a technical college or institute. Initially, the best course for him to take is that for the Ordinary National Certificate in an engineering subject. This course covers a period of 3 years in some cases, 2 in others. It can be followed by a further course, lasting an additional 2 years, leading to the Higher National Certificate. This is a highly valued qualification and a stepping-stone to many good appointments. It may also obtain for its holder certain concessions and exemptions if he takes a university degree course in engineering. However, a person who obtains a good Ordinary National Certificate may be given the opportunity to transfer to a "sandwich" or full-time course leading to a Higher National Diploma or the Diploma in Technology (Engineering).

The 16- to 17-year-old boy, who has been through a pre-apprenticeship course or attended a secondary technical school, has two alternative courses open to him. He may adopt one or other of the training programmes already mentioned. Alternatively, if he intends to go in for mechanical or electrical engineering, he may take a full-time engineering course lasting 2 years at a technical college, for the Ordinary National Diploma. Subsequently, he should become a student apprentice or otherwise obtain practical training, and at the same time continue with technical study part-time or as part of a "sandwich" scheme.

The boy who leaves school at the age of 18 also has several different avenues of entry into engineering. The best of these is to take a 3- or 4-year university course for an engineering degree or to study for a College Associateship, and, in either case, to follow this up with practical training for a period of 2 years in an engineering works. A variation of this method is to take the practical training prior to university or college studies. Yet again, certain university courses are arranged so that periods of academic study alternate with professional, practical training in industry.

Another training system for the 18-year-old is to attend a full-time or "sandwich" course leading to the award of the Dip.Tech.(Eng.), or the Higher National Diploma in mechanical or electrical engineering, at a technical college. The training covers approximately the same ground as a university degree course.

Finally, the boy of 18 who cannot, for some reason, study full-time, may become a student apprentice and study part-time for a University of London external degree or the National Certificates

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already mentioned. An external degree may also be taken full-time by a boy who, for example, has not been offered a place at a University.

The costs of professional training vary considerably. Technical college training, either part- or full-time, is not costly, but students under the latter system have to meet living expenses and other miscellaneous costs. University fees for tuition over a complete course range from about £150 to £360 or more, according to the length of the training period and the qualification aimed at. Living costs and miscellaneous expenses such as entrance and examination fees, etc., must also be taken into account.

Aid toward the cost of professional training is made available, to approved applicants, from various sources, in the form of scholarships, grants and exhibitions. These include State Scholarships and Technical State Scholarships awarded by the Ministry of Education, details of which may be obtained from the Secretary, Ministry of Education, Curzon Street, London, W.1. University scholarships are awarded by universities and certain colleges. These may in certain cases be supplemented by State Scholarships. Details of university and college awards should be obtained from the bodies concerned. Local Education Authorities award certain scholarships to assist with the costs of university training. Details of these may be obtained from the local education authority controlling the area in which the student lives. Other awards include leaving scholarships and exhibitions made available by some endowed schools; scholarships awarded by engineering institutions; grants to the sons of men in H.M. Forces, etc.

On becoming fully qualified, it is advisable for an engineer to join one or other of the professional institutions, such as the Institution of Mechanical Engineers or the Institution of Electrical Engineers or the Institution of Civil Engineers. Membership is not compulsory but is nevertheless of great assistance in the professions. It is a valuable means of contact and certain grades of membership carry considerable prestige-value. Details can be obtained direct from the Institution associated with the branch of the profession in which an engineer specialises.

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Under the present regulations there are several different categories of recruitment of personnel into the Army, the Royal Navy and the Royal Air Force, and most new recruits are adults aged 17½ or over. However, as this book is concerned with careers for boys, the following details are restricted in the main to those which it is thought will be most helpful to (a) potential officers joining under cadet training schemes, and (b) boy entrants to the three services. In the following sub-sections, general details are given where appropriate, and specific remarks, about the two categories of recruits, follow under the respective letters (a) and (b).

Rates of Pay

Rates of pay and allowances in the regular armed services, which vary considerably, are reviewed every two years. No figures will be quoted in this book in order to avoid giving what might well turn out to be misleading information. Full up-to-date details can be obtained from Service Recruiting Pamphlets distributed by recruiting offices.

Service pay, in general, does not compare unfavourably with wages and salaries in civilian life, if allowances and sundry other special benefits are taken into account. The days are long past when an "other rank" received a mere pittance and commissioned service was bearable only for those with a substantial private income.

Age of Entry

Each service has its own age limits for new recruits of various types.

(a) For most recruits under cadet schemes for commissioned service—the usual avenue of entry adopted by potential officers—the age group limit ranges from 17 to 19 years. Special training or high educational qualifications, etc., entitle certain older candidates to be eligible for consideration, especially from the universities.

(b) The present school-leaving age of 15 years is the minimum for entry into the ranks of the various forces (with certain exceptions). Boy entrants, classed as such, are recruits between the ages of 15 and 17½ years. In the Royal Navy, entrants between these age-limits are called junior ratings.

Educational Requirements

(a) Candidates for commissioned service in the Navy must usually first obtain five G.C.E. passes (two at Advanced level). For the Royal Marines, Army and R.A.F., candidates must either sit the Entrance Examination conducted by the Civil Service Commissioners (for which they must already hold three passes at Ordinary level in the G.C.E.), or to qualify for exemption from the Entrance Examination by gaining additional qualifications. There is also a medical examination and a service selection board.

A new scheme of cadet entry will be introduced for the R.A.F. as from September 1961. Candidates will be required to obtain passes in the G.C.E. at Advanced and Ordinary level instead of taking the Civil Service Commissioners' Entrance Examination.

It should be noted that other modes of entry exist for young men with certain educational qualifications, for those who complete their general schooling under service scholarship schemes or at certain colleges, and for qualified doctors, dentists, etc. All such candidates have, nevertheless, to pass both medical and selection board examinations.

(b) Entry into the service, of boys aged 15 to 17½, is by means of selections, examinations, etc., which vary somewhat from one branch to another. In some cases no precise educational qualifications are required although the candidate must have at least "average intelligence". In other cases, set entrance standards are laid down and both selection boards and competitive written examinations must be passed. For example, apprentices in all three services are required to pass such an examination unless exempted from it because they hold a qualification of sufficiently high standard in general education. The minimum standard in all three services is still below the General Certificate of Education at Ordinary level but it is, of course, a distinct advantage to have reached a higher standard than this. In any case, a boy's education will be continued in the Service, and many boys take their G.C.E., O.N.C. or City and Guilds' Certificate after entering. All boy entrants must pass a medical examination, before acceptance into the service, in addition to any other tests and examinations which may be applied by the particular branch he seeks to join.

Personal Qualities and Attributes Needed

(a) The modern officer is required to be an educated person, to have professional knowledge and abilities of a high order. First and foremost he must be a leader of men, abide by a high code of

H.M. FORCES

behaviour and be willing and capable of accepting high responsibility. He may at any time be required to function as an organiser, administrator, controller, instructor and adviser. He must, therefore, be a master of many subjects, be able to think logically and make correct decisions. Whilst being able to command respect and obedience and to maintain discipline, he must have a sympathetic understanding of human nature and be able to mix well with his fellow-officers and establish good relations with his subordinates. He requires not only a dedicated sense of service but, also, qualities of ingenuity and foresight, initiative and courage. He should have a liking for variety in his work, for adventure and travel, and be fond of physical recreation.

(b) The regular serviceman in the ranks must above all be willing to serve where, when and how duty demands, appreciate the need for obeying orders unquestionably and accept discipline as an essential of service life. In this connection he needs to be no less dedicated to service than does a commissioned officer. He must also be able to mix well with all sorts and conditions of men, for his is a communal life with little privacy in which tolerance and good fellowship count for a great deal. The modern recruit is not now considered, as was sometimes the case in former days, as being little more than "cannon-fodder"; he is required to be intelligent, willing and able to learn, in return for which he may be educated and trained to a high standard of proficiency in technical and other matters.

About this Career

The armed forces are designed and maintained primarily for the defence of the nation but, indirectly, they serve also other purposes, acting as a deterrent to would-be aggressors, protecting communications and trade routes, fulfilling international obligations and, from time to time, performing many other functions. The various branches of the three main services are highly organised, well-equipped, demand high standards of their regular personnel in all ranks and offer an immensely wide range of opportunity. Many different officers are employed on technical, administrative and staff duties, in all parts of the world, on land, at sea and in the air. There are ever-increasing opportunities for specialisation in scientific and technical jobs and permanent service now offers reasonably good pay and living conditions to those who make a career of service life. The services were at one time a convenient means of escape for the anti-social, on the one hand, and on the

other a useful and usually not too arduous or demanding pastime for those with money to throw around. Commissioned and non-commissioned classes were poles apart. Fortunately things are different now. Every recruit "has a field-marshal's baton in his knapsack"; training in the services is of a high order; there is unlimited scope for the ambitious, and at the end of the longer periods of service there is a reasonable gratuity or pension awaiting those who, in many cases, are by no means too old to continue as professionals in civilian life for many years more.

How to Become a Regular Serviceman

(a) A potential officer cadet for the Navy must have the qualifications already mentioned. For the Royal Marines, Army and Royal Air Force he should first pass or obtain exemption from the Entry Examination. This is held 3 times each year and is conducted by Civil Service Commissioners.

Next, he must pass a medical examination which demands a fairly high physical and visual standard which varies according to the particular duties for which the candidate wishes to be considered. Those who wish ultimately to fly, for example, must possess the aptitude to assimilate aircrew training.

Finally, the candidate is examined by a selection board, which means that he undergoes a series of examinations, tests and interviews designed to enable the board to assess his qualities of character and intellect.

A candidate who is successful in all respects enlists for a stipulated period of time (number of years) and is sent to a training establishment in the respective branch of the service for which he has been accepted. Training includes academic study, professional practical instruction and specialisation.

(b) A boy who wishes to enter one of the forces should first apply to his nearest local recruiting office. He will in due course undergo a medical examination and, if he successfully passes this and other tests, he will then be able to enlist—wherever possible in the service and in the particular branch of that service which he chooses. In each of the 3 main services there are different types of engagement, for varying categories of entrant and for varying periods of service. In the Royal Navy, a boy can be accepted as a junior entry in the Seaman, Engineering Mechanic, Electrical Mechanic and Naval Air Mechanic branches, between the ages of 15 and 17½, and as a junior entry in other branches (except the Sick Berth branch), and as an Artificer Apprentice

HOLY ORDERS—THE ANGLICAN CHURCH

entrant, between the ages of 16½ and 17½. A boy may be accepted for the Army as a Junior Leader, a Junior Bandsman or as an Apprentice or for the Royal Air Force as an Aircraft Apprentice, an Administrative Apprentice or as a Boy Entrant. A boy is not accepted for any particular one of the many different jobs classified under each of the categories mentioned above. First he undergoes general training and as a result of his showing during this initial period, and in selection and other tests, an eventual decision is made as to his subject for specialisation. Whenever possible a boy's own wishes are taken into consideration.

The remarks in this section comprise the briefest of brief introductions to service in the forces. Boys who are interested in a service career should obtain FULL details from their nearest recruiting office or, if in any difficulty, should write to: The Under-Secretary of State, War Office (M.P.6), London, S.W.1; The Director of Naval Recruiting, Admiralty, London, S.W.1, or the Central Recruiting Office, Royal Air Force, Victory House, Kingsway, London, W.C.2.

HOLY ORDERS (The Anglican Church)

Rates of Pay

Dedicated men enter Holy Orders for reasons quite other than financial reward. This is as it should be. It is nevertheless an unfortunate fact that most clergymen could well do with a much higher income. Their work is not well-paid—especially by any professional standards—for the Church has a multitude of claims on its not unlimited resources.

In the Anglican Church, £650-£700 per annum is the minimum stipend of a rector or vicar, who is also provided with a free house. The income of some benefices is higher than this but in few cases by any appreciable amount. The stipend of a curate is in the region of £350 a year, quite often with accommodation.

Age of Entry

Eighteen years of age is the minimum at which a candidate may

be selected for training. A candidate who has successfully completed training for the Ministry cannot be ordained until he is aged 23 years or over, after a period of study which usually lasts not less than 5 years.

Educational Requirements

Those who seek to become ministers in the Anglican Church must be equipped—mentally, physically and spiritually—to undertake the arduous duties of their high calling.

Candidates aged between 18 and 25 years are usually required to obtain a university degree and subsequently to study for 2 years at a theological college, but there are alternative courses for those for whom this is not suitable. Preliminary requirements for entry into a university differ somewhat but most candidates are required to have obtained the General Certificate of Education (or its equivalent) with 5 passes, 2 at Advanced level, in subjects which include English language, a foreign language and mathematics or science. (It should be noted that Oxford and Cambridge and the Arts faculties of most universities stipulate Latin up to Ordinary (G.C.E.) level, although some universities accept Greek as an alternative. A student is likely to need a knowledge of New Testament Greek during his time at theological college.) Certain universities require prospective students to sit for special entrance examinations and yet others require different preliminary qualifications.

Further information concerning pre-entry educational qualifications, not only for young men in the age-group already mentioned but for older entrants, also, may be obtained from The Secretary, the Central Advisory Council for the Ministry, Church House, Westminster, London, S.W.1.

Personal Qualities and Attributes Needed

The priesthood is a vocation: unless a youth feels that it is the right and only calling for him it is almost certain that he is not fitted for it (although he will still be able to serve God, in another capacity, of course). He must feel that this is definitely the work which God wants him to do. The time is long past when the aristocracy put the fool of the family into Holy Orders!

Call to the priesthood may be suddenly realised or it may develop over a long period of time—for which very reasons the Church makes provision for entrants of all ages. It is the all-important essential but many qualities and attributes must also

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be present, in addition. A priest must be a leader in worship, a teacher, a guide and organiser, a provider and helper especially in time of trouble. He must be a man of intelligence and character, of sound moral principles, with a real love of God and of his fellow-men. He must have a real living interest in his fellow-beings, an understanding of human nature, intellectual power and perseverance unlimited. He must be mentally and physically fit and possessed of never-flagging zeal, for his work occupies him full-time from his ordination to the end of his earthly life.

These requirements may sound quite daunting. Clergy are human beings. The paragon who could measure up to all this would be far too humble to think it applied to him. Yet all can probably recognise that these demands are what are needed for the full service of God in the Ministry. Some of the qualities are immediately apparent; others develop in the course of time and training, and it is potentiality for which the Church is looking at this stage.

About this Career

Clergymen in the Ordained Ministry are employed in a variety of different posts. Many are parish priests, others are specialists such as chaplains of various kinds, monks, pioneers and scholars, but all share in the service and work of God.

The parish priest is entrusted by the Church with the guidance and care of his "flock", whom he leads in worship, helps at any time and in any way he can, and whose interests, problems, pleasures, joys and sorrows he enters into. His work is varied and responsible, his duties are arduous, his pay is not high but his rewards are infinitely great.

Most parish priests are occupied in the Ministry at home but there are many opportunities for missionaries abroad. There is an ever-increasing need for young men in the Ordained Ministry.

How to Become an Ordained Priest

It is normally to his parish priest that a young man or boy contemplating ordination should first turn, or, if more appropriate, to his school chaplain or headmaster. One of these will be able to advise him and to write either to the Diocesan Bishop, or direct to the Central Advisory Council of Training for the Ministry, who will send the candidate a form of registration.

A candidate can only be ordained if he has been accepted for this purpose by a Bishop. Acceptance for training ultimately rests

on the Bishop's decision but this is based largely on the recommendations of Bishops' Selectors, clergy and laymen specially appointed by the Bishop to act as a selection board or committee. The candidate is invited to a C.A.C.T.M. Selection Conference lasting 3 days, at which he meets other candidates, is interviewed by 5 Selectors and joins in talks and discussions. The Conference is intended to help the candidate to "discover his proper place in the service of the Church." The Selectors report to the Bishop who subsequently informs the candidate of his decision and gives advice for the candidate's future. The accepted candidate is then required to pass a medical examination, after which his training may begin.

The Bishops' Regulations govern the precise nature of training, which may be of somewhat different types according to the age of the individual candidates. The 18-25-year-old candidate usually spends a period of 3 years reading for a university degree in Theology, in one or other of the Arts subjects or in Science. Having taken his degree, he then spends a further 2 years at a Theological college, one of the 20 in various parts of England. Here he studies theology, learns how to interpret and present the Gospel, and is in other ways taught his job and assisted to equip himself to perform it to the utmost of his ability. He must pass a General Ordination Examination and come up to the expectations of the Examining Chaplains appointed by his Bishop. For those under 25 for whom a university course is impossible or not recommended, there are 4 or 5 courses approved by the Bishops. Five subjects at Ordinary level in the G.C.E. is the minimum qualification and full particulars can be obtained from the C.A.C.T.M., at the address given above. There is also a special course at Brasted for a few selected candidates for whom these examination demands are inappropriate.

The cost of over-all training for ordination is somewhat heavy, the average for a 5-year course being in the region of £1,700-£1,800 (£400 per annum at university, approximately £260 a year at theological college). Vacation and other incidental expenses must also be taken into account by the prospective candidate. Although every candidate should consider it an obligation to meet as much of these expenses as he can, from private sources or by means of grants from the Ministry of Education or local education authorities, no one should refrain from offering himself as a candidate because of lack of funds. A candidate accepted for training for ordination is eligible for financial assistance from Church funds

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and, where necessary, grants for training and personal maintenance are usually forthcoming.

The candidate successful in every respect is first ordained by his Bishop, as a deacon, in which category he remains for not less than a year prior to taking Priest's Orders. For his first few years in the Ministry, he functions as a curate in a parish. Subsequently, if his work meets with approval, he is given an appointment of greater independence and responsibility.

HORTICULTURE

Rates of Pay

The Agricultural Wages Boards of England and Wales, also Scotland, lay down that horticultural workers shall be paid at not less than statutory basic minimum rates. These are related to a certain number of hours worked each week, spread over $5\frac{1}{2}$ working days. Up to 12 days paid holiday each year may be claimed by every horticultural worker, who must also receive higher rates of pay for work at week-ends and holiday times.

Experienced horticultural chargehands and foremen normally receive £600 or more per year, a set wage, or have a variable income made up in part of bonuses on receipts from the sale of crops raised under their management.

Trained managers in commercial horticulture have in most cases an income in the region of £1,000 per year. Technical assistants in parks departments receive at the outset approximately £600 per annum and chief officers in excess of £1,000. The annual salaries of official horticultural advisers range from approximately £545 to £1,216.

No specific income is made by the owners of commercial gardens of one sort or another. Their clear profit is variable: in some cases equivalent to a high salary, in others bare compensation for the long hours which have to be worked.

Age of Entry

It is usual for youngsters to take up paid employment in horticulture immediately on leaving school at the age of 15 or later, in order to gain indispensable practical experience. Technical training may be embarked upon at a subsequent stage, various types of professional study being open to students aged 15 to 17-18

years; 18 years is the minimum age of most students admitted to university degree courses in horticulture.

Educational Requirements

Practical experience is the most important of all assets in the horticultural world and can be gained without high educational standards having been reached. Of the world's best gardeners some have had little or no formal education. Nevertheless, a good general grounding in school subjects is desirable. Science subjects should be studied if possible, such as biology, botany, chemistry, etc., and Latin is a great aid to the understanding of the many proper names, in this language, used in the professional nomenclature of plants, pests, disease and other things.

Increasing importance is now being attached to technical qualifications. Most young horticulturists take at some stage in their career courses at universities, colleges or institutes to obtain degree or other qualifications such as national diplomas.

University and college horticultural students are in most cases required to have reached some stipulated standard of general education and to have had some preliminary experience in practical horticulture. Precise requirements differ from one training organisation to another. Candidates for degree courses must usually have obtained the General Certificate of Education with passes at ordinary level in not less than 5 subjects (including 2 languages—English and 1 other—and an approved science subject or mathematics) and passes at advanced level in not less than 2 subjects. Candidates for diploma courses must also have a background of practical horticultural experience and are generally required to have obtained the General Certificate of Education.

Specific details of pre-entry requirements should be obtained in good time from the governing body of the university or other establishment at which a boy intends to take formal training, so that suitable preparation may be made.

Personal Qualities and Attributes Needed

The primary need of a would-be gardener is an abiding "love" of the soil, with which he will have to deal every day from the beginning to the end of his working life (unless he is the rare exception who ultimately specialises in some artificial method of plant production such as hydroponics). Also essential prerequisites are an unflagging interest in plant and natural life and a liking for work both indoors and out.

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Patience and humility are two cardinal virtues of a good gardener, for nature may be co-operated with but cannot be mastered. Impatience does not speed plant growth and a gardener throughout his career must be willing to learn from his plants and his soil no less than from formal teachers and his peers in the horticultural world. The horticulturist, of whatever type, must be methodical and extremely practical; have a good memory for complicated, and in some cases, almost unpronounceable names, and organising ability of a high order to enable him to plan ahead in terms of both space and time. Physically he must be sufficiently strong to survive the much hard work involved in soil cultivation and similar jobs.

There is in most people a desire for some form of contact with the soil. A boy's persistent interest in nature study, the growing of plants or the cultivation of his own little bit of garden may well be indicative of suitability for a career in horticulture.

About this Career

Horticulture is the art, craft and science of crop husbandry on a garden scale. Its complete range is immensely wide and covers the cultivation of vegetables, fruits and flowers, in the open and under glass, on private, commercial and public holdings.

Comparatively few professional gardeners are nowadays employed in the cultivation of small private gardens; few householders can afford the high cost of "jobbing" labour. A trained horticulturist's best prospects lie in the public or commercial fields, either as an employee or an owner.

Commercial gardens—like farms—are of several kinds, varying according to local conditions of climate, soil, market demand and other factors. Some are "mixed" gardens geared to the production of several different horticultural crops, usually grown intensively (that is, several crops raised and harvested on the same land each year). Other holdings specialise in particular crops or a limited range of produce. The majority of commercial gardens are of a few acres in size and privately owned. The general classification "public gardens" includes public gardens as such, public parks, school playing fields, sports grounds, housing estate gardens, etc., which are maintained by local authorities.

Horticultural work of all kinds provides an exceptionally interesting occupation for many thousands of highly skilled workers. There are opportunities for general work or specialisation, under conditions and systems of management which differ widely

in type and scope. For the true gardener his job never loses its fascination, for he must be skilled and knowledgeable about the soil and its population, local conditions of climate, the best varieties of crops to grow, propagation and other techniques, the latest scientific aids and a hundred and one other factors. The specialist gardener is like his counterpart in the medical world, and the all-round horticulturist should know something about everything from compost-making to flower decoration and the cooking of produce he has grown.

Horticulture is an exceptionally worthwhile career from a national viewpoint in these days when food production lags far behind demand. It offers good prospects for the interested boy who is prepared to study and work hard.

How to Become a Horticulturist

The boy who intends to take up gardening as a career should grasp with both hands every opportunity of preliminary training which may be opened to him whilst he is still at school. Botany, biology, chemistry and similar subjects should be chosen for study in the classroom in preference to those less useful. A good deal may be learned of the rudiments of horticulture by means of practical work in a school garden and a rural science course taken at secondary school may be a distinct advantage in later life.

It cannot be stressed too much, however, that practical experience is of paramount importance to a gardener. Whatever a boy's ultimate goal in the horticultural profession, his first step should be to obtain paid employment on a suitable garden where he can gain an insight into organisation, processes and techniques, and obtain a wide variety of experience. Many gardeners, from a start in this manner, work their way up under the tuition of and alongside more experienced workers, boosting their progress by additional spare-time study such as reading and attending lectures and short courses. They seek higher positions as soon as they are qualified for these by ever-widening experience and many reach the top of their chosen profession.

Although the method already mentioned is still a very good way of learning a skilled trade, especially for those who intend to set up on their own account, to combine practical work with formal technical training is a better plan for those who have an eye on the top paid jobs in the profession.

Training for degree, diploma or other qualifications may be undertaken at universities, farm institutes, and colleges, by means

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of courses varying in length from a matter of weeks to 4 years. Three-year degree courses in horticulture are run by the Universities of London (Wye College, Kent), Reading and Nottingham, and at Reading there is also a 4-year course for an honours degree in horticulture, or horticultural botany or horticultural chemistry. In most cases students must be not less than 18 years of age. Pre-entry qualifications vary but generally must include at least 1 year's practical experience in horticultural work. The General Certificate of Education at advanced level confers partial exemption from the first examinations in university courses. Subjects studied usually include botany, chemistry, geology, physics, zoology, etc. Final degree examination subjects include horticulture, horticultural botany and horticultural chemistry. The costs of such training courses, and other related facts, are similar to those mentioned in the section entitled "Agriculture", above. It should be added that a 3-year diploma course in landscape architecture may be taken at Reading University.

Two-year diploma courses in horticulture are conducted at the Essex Institute of Agriculture, Writtle, Chelmsford and Edinburgh and the East of Scotland, also the West of Scotland, Agricultural Colleges. Entrants to the colleges in Scotland must be aged 17 or over and to those in England 18 or over. Candidates are usually required to have had at least 1 year's experience in practical horticulture. Study is concerned predominantly with practical work but covers, also, marketing and commercial horticulture.

Training is given to a limited number of students at the Royal Botanic Gardens at Kew and Edinburgh and at the Royal Horticultural Society's Gardens at Wisley in Surrey. Candidates are required to be aged between 21 and 25 years, unmarried, and to have had at least 3 or 4 years' practical horticultural experience. Competition is very keen for these courses which last for 3 years in the case of the Edinburgh Gardens, and 2 years at Kew and Wisley. The subjects studied include botany, chemistry, entomology, plant physiology and elementary general science in relation to horticulture. As much practical work as possible in all departments is fitted in, so that students gain an exceptionally wide range of experience. Training is free—due at least in part to the fact that students pay their way by doing much practical work in the various gardens which would otherwise have to be maintained by paid professional labour. Students at the R.H.S. Gardens at Wisley are provided with free board and lodging and given a weekly allowance. The non-resident students at the Royal Botanic Gardens

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are paid the statutory wage laid down for horticultural workers by the Agricultural Wages Boards. Successful students are normally awarded certificates or diplomas. It should be added that there are many applicants for the restricted number of places awarded.

A limited number of students, aged about 16 years, is accepted for training over a 3-year period in the public parks departments of certain local authorities. A wide range of instruction and practical experience covers nursery production of trees and shrubs, glass house management, the cultivation of bedding and pot plants, the maintenance of parks, sports grounds, playing fields, etc. Many successful students later undergo additional training at the Royal Botanic or Royal Horticultural Society's gardens. A potential specialist in parks department work may take a full-time course of instruction, lasting 10 months and costing £210, at the Institute of Park Administration Training College, Lower Basildon, Berkshire.

One-year certificate courses in horticulture, under conditions similar to those mentioned in the section on Agriculture, above, are held at Farm Institutes in the counties of Durham, Essex, Hampshire, Cambridge (the Isle of Ely), Kent, Lancashire, Somerset, Staffordshire, Surrey, East Sussex, Worcestershire and Yorkshire (the West Riding), and at others in Wales. Precise details should be obtained from the particular institute at which an individual wishes to train.

Apart from or in addition to the training and qualifications afforded by the courses already mentioned, most gardeners consider taking one or other of the important examinations in horticulture conducted by the Royal Horticultural Society (Vincent Square, London, S.W.1). The diplomas awarded to successful students are held in high repute within the horticultural profession.

The National Diploma in Horticulture is awarded as a result of success in the preliminary, intermediate and final examinations set by the R.H.S. Exemption from the preliminary examination only is afforded to students with certain qualifications in general education, such as those mentioned previously. Candidates for the N.D.H. must have been occupied full-time for at least 4 years in practical horticulture before taking the intermediate examination, and for at least 6 years before taking the Final examination. The Final examination, both written and practical, is in sections covering general horticulture, general commercial horticulture, fruit crop husbandry, glasshouse crop husbandry, vegetable crop husbandry, and horticulture in public parks. One section of the examination only may be taken each year. Successful students are

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awarded the National Diploma in Horticulture and may later take the examination for the N.D.H. (Hons.).

The Royal Horticultural Society also awards a Teacher's Diploma in School Gardening. The examination is intended for teachers who wish to obtain a qualification in the teaching of school gardening.

Skilled, trained personnel have no difficulty in finding employment in the horticultural world. There are supervisory and managerial posts; technical and administrative jobs and many others open to those who have the right experience and qualifications.

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Rates of Pay

In insurance there are scores of employers, large and small, and salary scales vary considerably. Generalisation is, therefore, unwise, but to obtain definite facts the Institute in 1960 consulted offices employing more than half the total number of company employees.

From these enquiries it is evident that a young man of 18 in London may expect a salary of approximately £350. Salaries for those working outside London are somewhat lower.

The outstanding man, particularly the actuarial student, can make rapid progress. Indeed, such a man can reach a salary of £800-£1,000 by the age of 25 years.

Even of the less outstanding men, a number are earning £1,200 per annum at the age of 35.

In the large sample mentioned above, it was found that one in ten of male insurance employees above the age of 40 in the United Kingdom earned over £2,000 a year. In the top rank, rewards compare well with those in any field.

The salaries mentioned are available to the man of good calibre who progresses well in his career. For those at less responsible level, salaries are necessarily somewhat lower, although it should be noted that, in the offices investigated, nine out of ten male employees above the age of 40, all over the country, are earning £1,000 a year, or more.

Overseas appointments carry salaries which vary according to local economic and other conditions.

Service in most insurance companies is pensionable.

Age of Entry

Practically all insurance staff are recruited direct from school, between the ages of 16 and 18. There are comparatively few older entrants, such as university graduates.

Educational Requirements

Insurance companies demand of their staff a fairly high standard of general education. In most cases the minimum preliminary qualification required of the would-be insurance worker is that he should hold the General Certificate of Education, or have attained an equivalent standard of education. It is usually stipulated that the G.C.E. examination should have been passed at Ordinary level, at least, in 4 or 5 subjects selected from a stipulated list, if the student is later to obtain exemption from the Preliminary examination of the professional body for insurance men and women, the Chartered Insurance Institute.

Higher academic qualifications are required of those who join composite companies transacting fire, accident, marine and ordinary life business than of agents in industrial or "Home Service" assurance. Indeed, the latter are not recruited from school.

The mathematically gifted boy or girl should think seriously about the possibilities of being accepted as an actuarial student at the head office of one of the life assurance companies. Actuaries are in short supply but only those with a flair for mathematics are likely to stay the course in studying for the examinations of the Institute of Actuaries. Further particulars can be obtained from the Institute at Staple Inn Hall, High Holborn, London, W.C.1.

Employers encourage new entrants to take the Associateship examination of the Chartered Insurance Institute which is held annually and is designed to spread over 3 winters of part-time study. A Fellowship normally takes a further 2 winters of study. There are 6 branches: general, fire, accident, marine, life and national. Such a qualification has both prestige and economic value, for it is recognised by higher salaries or bonuses.

Personal Qualities and Attributes Needed

The four "I's", intelligence, initiative, integrity and industry are qualities of great importance to the potential insurance employee. The right type of youngster should also have academic ability, a liking for hard work and a resolve to acquire necessary technical knowledge (which in the case of insurance is considerable and demands great mental stamina). He should be able to think quickly,

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face up to difficult decisions and write and speak accurately. Common-sense and good judgement will be required of him and he should possess a well-defined personality, a liking for all types of people, an interest in many things and a varied range of spare-time activities. A flair for salesmanship and interviewing skill are invaluable assets to certain insurance employees.

About this Career

Basically all insurance is on the same basis. The insured person pays an annual premium in return for which the insurance company protects him against some risk of financial loss by misfortune. The misfortune may be caused by fire, by marine perils, by premature death, or by an accident—a motor accident for example. The insurances needed by individuals are usually quite simple. The insurances of large industrial concerns, on the other hand, are complex, and a great deal of technical knowledge is required by the men who meet their needs.

It is difficult to define in simpler terms than the above the way in which insurance operates. It is a profession of several different branches, classified as fire, marine, ordinary life, accident, engineering, aviation, etc. Its operations are world-wide and there are many hundreds of insurance companies engaged in business which provides work for thousands of employees. These include juniors just out of school, agency and claims inspectors, underwriters, brokers, fire and burglary surveyors, claims assessors, etc., etc. All need varying degrees of technical knowledge; some work solely in offices and others “in the field” and their sphere of operation may be in Britain or overseas.

Conditions of work, pay, and prospects of promotion are all good for the right type of insurance worker. His chosen career offers a high degree of security during working life and a retirement free from financial astringency is assured by the pension schemes operated by most companies.

How to Become an Insurance Worker

The best, and usual, method of taking up a career in insurance is to obtain a post as a junior clerk in the office of an insurance company. From this point onwards, progress depends largely on individual effort. The junior, in his day-to-day work, is taught as much as is possible about the insurance business, and his ability to take in and make use of such instruction and experience will determine the rate at which he rises from lesser to more important

jobs. Over a period of years he should acquire considerable knowledge and gradually will tend to specialise in a particular branch of work.

From the very outset of his career, it is to the advantage of the insurance worker to study for professional qualifications. These bring financial rewards from employers, in the shape of increased salary or bonuses and are of considerable advantage professionally in other respects.

Professional study may be undertaken in several different ways and training systems vary considerably. "Student" insurance employees may be sent on introductory or specialist courses at the College of Insurance; attend training courses run by individual insurance companies; take correspondence courses through commercial colleges, and study part-time during the day or evening. The Chartered Institute provides study courses and facilities of various kinds and offers each year prizes for successes in its examinations.

Professional qualifications are obtained through the examinations of the professional body: the Chartered Insurance Institute, 20, Aldermanbury, London, E.C.2. There are certain pre-entry requirements, conditions and grades of membership, and the C.I.I. conducts its own examinations. To give some idea of the factors involved, brief details will be given concerning the Chartered Insurance Institute.

Membership of the Institute is open to all those employed or engaged in any type of insurance work. The 3 main examinations of the Institute are known as the Preliminary, Associateship and Fellowship. Exemption from the Preliminary examination is granted to candidates who have the G.C.E. at Ordinary level and in appropriate subjects, and to the holders of certain other educational certificates.

The Associateship examination, open to those who have passed or obtained exemption from the Preliminary examination, is in 6 main branches: General, Fire, Ordinary Life, Accident, Marine and National.

The Fellowship examination, which in general is open only to those who have already passed the Associateship, comprises 2 sections of 3 subjects each, and a third section consisting of an essay.

The insurance worker who gives evidence of ability and obtains professional qualifications is generally given ample opportunity to improve his position. The erstwhile junior clerk may ultimately rise

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to the highest level in the profession, for promotion is solely on merit.

The Institute runs a careers advisory service and arranges interviews in London and elsewhere.

JOURNALISM

Rates of Pay

It is well-nigh impossible to state with any degree of precision the income which a would-be journalist might safely expect ultimately to make. A reporter or columnist, for example, employed full-time by a newspaper proprietor or publisher, is paid a wage or salary the amount of which is usually influenced by many factors. These include the type of publication for which he writes or works, the area in which it is issued, its size and scope, its frequency of publication and—in most cases—the journalist's own ability and his popularity with readers. A provincial regular reporter may receive upwards of 16 guineas a week, a Fleet Street columnist of the top flight as much as £40–£50 or even more in exceptional cases. A so-called free-lance journalist, one who writes independently of any employer and sells his finished work for an agreed sum, may be paid as little as £1 1s. 0d. to £2 2s. 0d. for a thousand words of "copy" (if he is relatively unknown) or be paid at an immensely higher rate (if his is a national name).

Any aspiring writer is potentially capable of making an exceptionally high income by any professional standards but may have to struggle for years before reaping rich financial rewards. Attached employment in journalism is the only branch which at least guarantees a regular income, and this should be the initial aim in almost every case.

Age of Entry

The usual age of entry to the journalistic profession for those who wish to make it their full-time career, is 16–18 years. Adult entrants, over 24, are very few in number.

The newcomer to salaried journalism, whatever his actual age, is inevitably a novice in the profession. "The earlier the better" is therefore, in many respects, a good maxim for both the employer and the employed. The former has to pay less for the services of a younger than of an older "rooky", and the junior who starts

immediately on leaving school is a good jump ahead of the senior entrant to an extremely competitive profession. It is usually advisable, however, to stay on at school in order to take higher certificates and, if possible, to go to a university.

Of the large number of free-lance writers, many start as attached journalists and later branch off on their own account. Others start as independent writers, usually when they have found that a career in sport or industry, for example, has provided them with qualifications or a background of knowledge which they can turn to good account as regular or sporadic contributors to publications of one type or another.

Educational Requirements

High academic honours are not indispensable in most types of journalism, the main qualifications for which are an ability to write well coupled with knowledge or the "know-how" of acquiring their "raw material".

It is nevertheless important that an aspiring journalist should have the best possible general education if he is to stand a reasonable chance of success in a profession assaulted unceasingly by those who are well-equipped academically and have a vague feeling that they would "like to write". Minimum preliminary qualifications in general education are also being demanded of potential employees in more and more publishing houses and offices. All would-be journalists are advised to obtain the General Certificate of Education, at Ordinary level at least, in 3 or more subjects including the English language and English literature, or to reach a similar standard in general education. They should also become proficient in shorthand and typing.

Personal Qualities and Attributes Needed

Journalism is a profession solely for the dedicated individualist who has a consuming urge to write, marked literary ability and the necessary mental stamina and singleness of purpose to carry him past all obstacles to his chosen goal. These qualities, of paramount importance, must be combined with many others, such as wide general interests and knowledge, curiosity, objectivity and adaptability. A journalist needs to be able to marshal facts without distortion, to weigh up pro's and con's, to give impartial judgments. He must have a proper sense of proportion, sound common-sense, responsibility, a capacity for self-criticism and a desire always to increase his knowledge. He must be prepared to work at

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lightning speed at any time and anywhere. He needs to be sensitive yet self-confident and have a willingness and capacity for hard work.

It is not always easy to see even a few of the requisite qualities in a boy who might nevertheless make a good journalist. Useful indications to look for are, however, an absorbing interest in reading and writing, with definite skill in the latter; noticeable powers of self-expression, a lively interest in everything and an adventurous spirit.

About this Career

The word journalism in modern usage connotes the profession of reporting, writing and presenting news and other items to the public through many and various channels. These include newspapers of all types, both national and local, daily and weekly, etc.; periodicals of all kinds, such as magazines, journals, trade papers, and to a lesser extent, also radio and television. Even school magazines and papers come under the heading of journalism!

The profession as a whole caters for every possible interest and taste. It covers an unlimited range of subjects including general news with "human" interest, politics, industry and finance, foreign and international affairs, sport, crime, fashions, agriculture, entertainment and a host of specialist hobbies, crafts and professions, etc., etc. It provides information and entertainment at all levels ranging from the "popular" to the "quality".

Journalism of various types, general and specialised, provides employment for writers of many different kinds and in varying capacities. Some journalists are full-time, salaried employees; others work only part-time and yet others, free-lance writers, work independently. There are reporters, writers in specialist subjects, leader and feature writers, editors and sub-editors, and many others. The total number of those employed in some aspect of journalistic work in England cannot be assessed accurately, but there are something like 20,000 full-time journalists alone.

There is exceptionally keen competition both for entry into, and within, the profession, despite the fact that it is a tough business in which only the fittest and most able survive the many trials and tribulations on the road to success. Journalists usually have to work irregular and sometimes long hours at high pressure. They have to be prepared to tackle practically any subject under the sun without warning, may be sent here, there and everywhere to obtain material and their finished copy may be rejected or "carved" out

of all recognition. The free-lance writer, a real lone wolf, leads a particularly precarious life, never absolutely sure where his next meal is coming from—unless he is very famous, of course. It is nevertheless true that a career in journalism is of lasting interest and, once a foothold has been obtained, there is wide scope for the true professional.

How to Become a Journalist

There are several alternative avenues for entering the journalistic profession, two of which have particular merit.

One method is for the school-leaver to apply to be taken on as an editorial assistant by the editor of a magazine, journal or trade paper in the periodical press. If the applicant is successful, he is able to gain experience whilst actually doing a job of work, however subordinate, and he usually receives some measure of expert training. In the course of time, if he proves suitable, he will have opportunities of more responsible work and, ultimately, chances of promotion on his present or another periodical. From fully-fledged reporter he may rise to become sub-editor or editor. It should be noted, however, that many publications in the periodical press employ experienced journalists only or those who have special knowledge. Many of the higher positions are virtually closed to those who have not had general newspaper experience.

For these reasons and others, perhaps the best method of entering the journalistic field is through the gate of newspaper work, particularly on one of the many local and less important weekly newspapers. (Most national daily and weekly newspapers, like many periodicals, have no time to instruct inexperienced juniors.)

Work on local or weekly newspapers offers excellent chances of gaining wide experience and, in most cases, juniors receive some useful measure of definite instruction and tuition. The newcomer first works under supervision, is gradually allowed more responsibility, in due course undertakes consignments of his own and, ultimately, comes in line for promotion on his present or another paper.

Many journalists remain throughout their career in the local and weekly newspaper press. Others aim for appointments on national newspapers and periodicals where there are more opportunities for specialisation, higher wages are paid and where there exist better chances of becoming a national "name". Most of the national writers are concerned with one or more specialist subjects, as witness their respective designations: parliamentary corres-

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pondent, sports writer, crime reporter, industrial correspondent, drama critic, leader writer, etc. Many full-time journalists with newspaper experience enter news agencies—organisations which collect and distribute news items to newspaper publishers and others—and some are employed on radio and television work and in public relations. In many cases such employment is secured as a result of competition.

Although, hitherto, formal qualifications have by no means been essential to the pursuance of a journalistic career, it is becoming more and more usual for certain standards to be demanded of entrants and for recognisable “training programmes” to be adopted. For example, it is now the practice of most newspapers which accept trainees to co-operate in a scheme administered by the National Council for the Training of Journalists, 88/90, Chancery Lane, London, W.C.2. The scheme operates and affects newspaper and newsagency juniors, in a number of ways. For example, an applicant for employment is required to have reached the minimum educational level mentioned earlier, in order to be eligible for selection. If he is accepted by an editor, he is taken on as a probationer for a period of 6 months. If, during this time, he proves that he is a potentially good journalist, he is subsequently apprenticed by his editor for a binding period of 3 years, during which time he does practical work and undertakes general and vocational training. He is expected finally to attain the standard of the G.C.E. at Advanced level in English, at Ordinary level in the subject of central and local government, and to reach a shorthand speed of 140 words a minute. Other stipulations and recommendations under this scheme work, as do those mentioned, for the benefit of the employee and the employer alike. There is rather more to the training scheme than the few, brief details given here, of course.

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Rates of Pay

A general practitioner receives a standard sum for each of the patients on his National Health Service “list”. The total number of such patients must not exceed 3,500 but the doctor may, in addition, treat so-called private patients whom he charges appropriate fees for his services. The general practitioner’s

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actual income varies somewhat from year to year but the average net income is in the region of £2,000 a year.

The salary of a consultant or specialist holding the higher qualifications ranges from over £2,000 to £4,000. In addition, there are special distinction awards.

An Assistant Medical Officer in one of the local authority health services receives between £1,150 and £1,640 per annum and a doctor in a government department is paid upwards of £1,650.

Age of Entry

The minimum age for registration as a medical student is 17½. A period of at least 5 academic years is occupied by the medical curriculum, plus a pre-registration year in hospital appointments.

Educational Requirements

Candidates for admission to medical schools should possess (1) a recognised preliminary qualification in general education and (2) a pre-entry qualification in the subjects of chemistry, general biology and physics. The latter qualification is obtainable through an examination or examinations—known as the Pre-Medical—set by recognised universities. Exemption from the Pre-Medical is, however, awarded by certain universities to students who hold the General Certificate of Education, or an equivalent, with passes at Advanced level in the requisite subjects. (Thus requirements listed under (1) and (2) above can be fulfilled at one and the same time.) On the other hand, certain universities prefer prospective students to take a 1-year preparatory course for an examination in Science. In view of the fact that pre-entry and other requirements vary considerably, also change from time to time, all would-be medical students should obtain precise details of approved subjects, examinations which afford exemption, etc., direct from the university or medical school at which they wish to train.

Personal Qualities and Attributes Needed

The practice of medicine is an occupation solely for individuals dedicated to the service of their fellow-beings, especially in times of suffering. Only a supreme sense of vocation, of purpose, enables a doctor to cope with his exacting job in the course of which he sees life in the raw and humanity at its lowest ebb. A doctor must, of course, possess great skill, and be mentally, morally and physically fit. He must have a sympathetic and understanding

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disposition and be responsible to that ultimate degree demanded of one who at any time may hold the life of another in his hands. A doctor must feel a real desire to help and succour those in need, physically or mentally. His personality and bearing must be such as to inspire trust and confidence. The rules of conduct of those who practise medicine are part of a code of standards of professional behaviour strictly imposed on every member of the profession in order to preserve its honour and dignity.

About this Career

The purpose of medical practice may be defined as the prevention of disease and the maintenance of health through scientific and other knowledge. Such functions are obviously of unique importance in a world in which suffering is considered to be an inescapable part of life. The debt we owe to those in the medical profession is incalculable.

The medical profession employs many thousands of trained practitioners. Some doctors are in general practice, others work in hospitals and under public health services; many function in industry, in the armed services and in the Colonial Service.

Conditions and pay within the profession are generally good and a doctor enjoys considerable prestige. It is true, also, that a doctor's work is exacting in more ways than one. He cannot afford to make mistakes of any kind; his hours of work are by no means few and his leisure time is never guaranteed to be free from interruption. Only those who know that they "must" enter the profession should do so.

How to Become a Doctor

Application must first be made by those with the necessary preliminary qualifications, for admission to the medical curriculum of a medical school. Of the many universities which offer courses for registrable degrees in medicine, surgery and midwifery, the 10 situated in England are the universities of Birmingham, Bristol, Cambridge, Durham, Leeds, Liverpool, London, Manchester, Oxford and Sheffield. There are others in Scotland, Wales and Ireland.

Each medical school has its own precise regulations but the curricula in all cases follow closely the requirements of the General Medical Council. The medical student spends at least 5 academic years undergoing training in medical school and hospital, receiving instruction which is both varied and complex. Final examinations,

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taken at the end of the 5-year period, are in the theory and practice of medicine, surgery, obstetrics and gynaecology.

The successful student, awarded a registrable degree or diploma, must next spend 1 additional year in residential appointments in a recognised hospital. He may then apply for registration, under the Medical Act, to the General Medical Council.

Medical schools have special post-graduate courses leading to the higher qualifications for those doctors who wish to specialise in certain recognised branches of medicine. Theoretical study is combined with clinical work over a further period of 4 to 6 years after qualification; this usually takes the form of a series of hospital appointments within the registrar grades, and leads to the Fellowship of the Royal College of Surgeons, the Membership of the Royal College of Physicians, etc. There are also post-graduate diplomas in such subjects as industrial medicine, physical medicine, public health, etc.

The cost of basic training is variable from one university to another but the total period of training costs between £2,000–£2,500 including examination fees and incidental expenses. Financial assistance towards medical training is obtainable from a number of different sources. Enquiries regarding local authority grants should be made to the Local Education Officer.

Most doctors, on completion of their training and having been registered, join one or other of the professional associations, such as the Royal Society of Medicine or the British Medical Association, details of which can be obtained from the Medical Directory.

Registered practitioners have a wide choice of employment for there is a constant demand for qualified personnel. The majority of qualified men choose general practice, and it is usual, in the first instance, for a newly qualified man to obtain a post as assistant to a senior doctor in a varied general practice. Others may decide to enter one of the various branches of the profession already mentioned.

MINING ENGINEERING (Metalliferous Mining)

Rates of Pay

A newly-graduated metal mining engineer, in his first professional appointment, usually receives between £600 and £750

per annum. Within 5 years or so his salary will normally rise to £1,200 or more. Finally, as a mine manager, aged 45 or so, fully experienced and now occupying one of the peak positions in the profession, his annual salary is likely to be within the range of £2,500 upwards. A few prized positions carry extremely high salaries.

The figures given here are approximate and, in any case, should not be taken absolutely at their face value. Practically all metalliferous mining engineers are employed overseas, most in countries where living costs and income tax are not so high as in Britain. Another item on the credit side of the balance sheet is that the majority of mining engineers are provided with accommodation which is free or for which a nominal rent only is charged. Such being the case, their financial status is in actual fact generally better than it appears to be at first sight.

Age of Entry

It is possible for youngsters to enter metal mining engineering as manual workers but this is not recommended. For those aiming at professional status, there are alternative avenues of entry. For example, young men aged 18 may be admitted under a special training scheme, which will be mentioned below, and are enabled at least to cover their living expenses from the very beginning. Another method of training with an eye to a high professional level of employment, is to take a course in mining engineering at a university or mining school. The age of entry varies between one training institution and another, but complete qualification is not normally possible before the student is aged 21–22.

Educational Qualifications

To all intents and purposes the basic minimum qualification for a career in metal mining is the General Certificate of Education. The appropriate examination should have been taken in not less than 5 subjects, 2 of these being mathematics and physics or chemistry at Advanced level.

However, the work of the metal mining engineer is such that he stands the best chance of success if he has, in addition to a good background of general education, a higher, specialised qualification. A course at a university or school of mining is a particularly desirable, if not an absolutely essential, qualification.

An important asset professionally, one to which much prestige-value is attached, is membership of the Institution of Mining and

Metallurgy, 44, Portland Place, London, W.1. Admission to membership of the Institution, which is in various grades—Student, Affiliate, Associate Member, and Member—is dependent on the applicant's ability to satisfy various requirements. Precise details of the preliminary qualifications required, and all necessary information, can be obtained direct from the Secretary of the Institution.

Personal Qualities and Attributes Needed

Certain general characteristics are desirable in all mining engineers, whatever their ultimate aim. Of considerable importance are physical attributes of health, strength and abundant energy, for a mining engineer's sphere of work may be the tropics or the Arctic Circle, under sometimes arduous conditions. Initiative is also essential, so are a sense of responsibility and good powers of leadership. A mining engineer, from very early on in his career, may have to accept heavy responsibility, work where self-reliance is indispensable, and handle all classes of labour with tact and firmness. His integrity must be beyond question in the face of temptation. He should also have a liking for foreign travel, as he may be moved from country to country if he is employed by a large mining concern. His abilities should include that of writing accurate and exact reports and he should have a lasting interest in scientific, technical and similar subjects.

About this Career

Metal mining engineering is an "umbrella" term which covers the discovery of natural sources of metallic substances (some non-metals, also) and the exploitation of these and their processing by smelting and refining. The 2 main branches of the industry are concerned with subterranean and with surface deposits respectively. The raw materials dealt with are numerous and varied, ranging from the precious metals, such as gold, platinum, silver, etc., to so-called base and other metals, including copper, nickel, tin and many more.

The remarks in this section should be taken as applying to metal mining engineering abroad, for comparatively little is now done in Britain. The industry is, nevertheless, represented throughout the world, and employs many thousands of skilled workers with knowledge of metallurgy, geology, mineralogy, surveying and mapping, all types of engineering and other sciences, techniques and crafts. A few only of its many and varied jobs are concerned

MINING ENGINEERING—METALLIFEROUS MINING

with prospecting, the development of newly-discovered deposits, the operation of mills and mines, drilling and shaft sinking, and supervisory and managerial duties.

Mining engineering, as a career, offers a wide choice of occupation to those having the requisite qualities and knowledge. The profession is well-organised, pay and living conditions are good by most standards and social and other amenities are not lacking in most mining towns and camps. Opportunities are open to all in a very democratic set-up and security is more or less assured by the continual expansion of the metal mining industry.

How to Become a Metal Mining Engineer

First and foremost, training must include both practical instruction and the acquisition of scientific and technical knowledge.

One method of entering the profession is useful for those who wish to work in South Africa. Men aged between 18 and 30 may apply to be taken on under the "Official Learners' Scheme" run by several South African mining companies. One of the objects of the scheme is to assist would-be mining engineers to work and train at one and the same time. Of the cost of passage to South Africa, approximately half only has to be met by those accepted under the scheme. From the very outset, wages are paid which more than equal living expenses, and trainees can eventually rise to the highest positions in the profession. The Secretary of the Institution of Mining and Metallurgy will supply the names of the sponsoring companies concerned.

In general, the best, and usual, method of entering this profession, at professional level, is after having completed a course of training at a university or mining training school. Facilities for such training are available at the Royal School of Mines, South Kensington, London; the Camborne School of Metalliferous Mining, Camborne, Cornwall; at sundry other schools, and at several universities in Britain and overseas. Students are instructed in such subjects as mineralogy, geology, inorganic chemistry, metallurgy, types of engineering, etc., etc. In general, conditions of study, pre-entry requirements, and training costs and various aids are similar to those already given in the "Engineering" section, elsewhere in this book, so these will not be included here. It is important, however, that all intending students should obtain *precise* details, in good time, from the appropriate training authorities.

MODERN CAREERS FOR BOYS

Most mining engineers, immediately on qualification, find that the best opportunities of employment exist in large mining companies abroad, particularly in Africa and Canada but in other countries, also. For the first few years after appointment, they are normally employed in a variety of work, as assistants in an operating mine, as samplers or assayers, as surveyors or assistant geologists, etc.

If their progress is of a satisfactory standard, they rise, with experience and application, to become assayers and surveyors in charge, superintendents of mills, and underground managers and managers, etc.

Those metal mining engineers with the highest qualifications eventually reach the plum jobs in the profession and become general managers, consultant engineers or general directors.

Apart from jobs with individual mining companies or groups, metal mining engineers are employed by dominion and colonial governments, in some industrial firms producing machinery for mining, and in teaching posts at university and college level.

OPTICAL SCIENCE

Rates of Pay

Ophthalmic opticians, newly-qualified and at the start of their first appointments in general practice, are paid approximately £600 per annum. Managing opticians receive between £800 and £1,950 a year according to experience, level of promotion and other factors. The salaries of opticians in the Hospital Eye Service range from £575 to £875 a year and of those in senior posts, from £930 to £1,250.

Dispensing opticians employed as assistants in individual firms receive at the outset not less than £450 a year. Seniors are paid between £600 and £800 annually—excluding managers whose remuneration is at a higher rate. Many of the dispensing opticians in the Hospital Eye Service are paid at a more generous rate than the regulation minimum of £300 rising to £600 a year.

No precise indication can be given of the income of an optician in general practice, although this is usually well into the four-figure bracket.

Age of Entry

The diplomas of the various professional bodies are not awarded until candidates, who have been successful in the examinations for ophthalmic opticians, have reached the age of 21 and, in the case of the British Optical Association and the Institute of Optical Science, have completed 12 months clinical practice under supervision. Training for the examinations covers a period of 3 years' full-time study, or 4 years' part-time plus a final, fifth year's full-time study, according to the method employed. It is therefore possible for a trainee, by one method, to be wage-earning for four-fifths of his total training period.

One method of training as a dispensing optician is, similarly, to combine approved employment with part-time theoretical instruction. Other methods are to study for varying periods as a full- or part-time student. Trainees by certain of these alternative methods may also be wage-earning from the very outset of their study, on school-leaving at the age of 16 or older.

Educational Requirements

The General Certificate of Education, or its equivalent, is the minimum qualification in general education required of most candidates for training courses and the examinations of professional bodies. The G.C.E. examination, at least at ordinary or lower level, should have been passed in subjects which include biology or chemistry, English, mathematics and physics or general science. The British Optical Association requires a foreign language in addition. From September 1960, 2 Advanced level subjects will be required, 1 of which must be physics and 2 or 3 at the Ordinary level. Pre-entry qualifications and other regulations vary considerably between one training organisation and another, so that precise details should be obtained well in advance by the intending student.

A qualifying diploma from one of the recognised professional bodies is the minimum qualification necessary in order to be able to practice as an ophthalmic optician. The Central Professional Committee for Ophthalmic Opticians also requires evidence of 12 months clinical experience after the final qualifying examination has been passed.

A dispensing optician, in order to qualify for his name to be entered in the list of the Central Professional Committee for Opticians, must have obtained a recognised diploma or dispensing certificate and be able to fulfil certain other requirements.

With the passing of the Opticians Act, in 1958, a General Optical Council has been set up to control the profession. Only opticians on the register of this Council, and doctors, will be allowed to prescribe and dispense spectacles.

Personal Qualities and Attributes Needed

The science of ophthalmics is precise, in that much of the work it involves is intricate and exacting and must be carried out with invariable accuracy. As this profession also calls for patience of a high order, suitability for it may be indicated in the case of the boy who is painstaking and methodical, and who prefers factual to artistic subjects in school.

It should be appreciated that an ophthalmic optician, one whose work is chiefly that of examining eyes and testing sight, has to deal directly with patients who may be nervous and ill-at-ease. He, like a doctor, should have a good manner, sympathetic and reassuring, coupled with an agreeable personality. Many opticians in the top class owe their success as much to these qualities of temperament as to ability on the technical side.

No heavy manual labour is involved in the work of this profession but an optician should be physically fit. Particularly, he must have good eyesight, with artificial aids if necessary, and normal colour vision.

About this Career

The work of an ophthalmic optician is, broadly speaking, a fairly set procedure the purpose of which is to reveal and then to remedy or correct optical defects of various kinds. In other words, the ophthalmic optician examines the eyes and tests the sight of his patients and, if necessary as a result of his findings, supplies or prescribes spectacles or other aids. For this important occupation he must be equipped by training in various specialised fields.

Obviously the ophthalmist must know all there is to be known about the eyes and be familiar with the standard techniques and the mechanical aids used in his profession. He must be qualified to use, where necessary, drugs such as those employed to dilate the pupil of the eye in order to facilitate examinations of a certain type. He must be able to recognise not only defects of vision but, also, conditions of disease in the eyes. Even though he may never actually make spectacles himself, he must understand the techniques of their construction and, understand the properties of all types of lenses.

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The ophthalmic optician, in dealing with a new patient, follows a fairly flexible routine which usually includes external examination of the eyes and their surroundings; trials to determine the existence of squints or faults of co-ordination; internal examination of the eyes, with the aid of an ophthalmoscope, to find out whether disease is present and whether vision in a particular case is normal, "long" or "short"; and the use of a retinoscope to reveal the presence and extent of any optical defects. He also uses standard test charts (cards bearing letters ranging from the very large to the very small), to determine visual acuity, to assist him in the diagnosis of any astigmatism, and the selection of the type of lens necessary to compensate for visual defects.

The ophthalmic optician's subsequent procedure depends upon the nature of the irregularities he has found as a result of his examinations and tests. Patients whose vision is caused to be defective by disease or illness are not treated by the ophthalmic optician himself. Their particular trouble may require surgical or medical treatment, for which reason they are returned to the care of their ordinary medical practitioner. Defects *not* caused by disease or illness are, however, within the ophthalmic optician's sphere of activity. These are remedied with spectacles or other aids made according to exact calculations and measurements taken by the optician. For each individual patient, the lenses selected must be of precisely the right sort to give maximum aid and be held in the correct position by spectacle frames which are of the required style, type and fit. If, as is usual, the ophthalmic optician acts also as his own dispenser, he himself supplies the necessary spectacles. On the other hand, if he is not engaged in dispensing, he prescribes the fitting and supply of spectacles to his patient through the agency of a separate dispensing optician.

The dispensing optician is not concerned with the examination of patients. His sole function is to provide and fit spectacles or other mechanical aids according to exact specifications—measurements, types of lens, etc.—laid down for him by the ophthalmic optician or the ophthalmic medical practitioner, or the ophthalmic surgeon.

It is not now general practice for opticians to make spectacle lenses and frames in workshops on their own premises. In the majority of cases, spectacles are made by technicians and craftsmen in so-called prescription houses or wholesalers. The finished product is then checked, against the original prescription, by the ophthalmic optician or his dispensing counterpart who makes any necessary adjustments when the patient has his final fitting.

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Of the many thousands of ophthalmic opticians in Britain, the great majority are engaged in general practice as assistants, managers or owners of practices. The remainder are employed in clinics, hospitals, industrial concerns, etc. Dispensing opticians are employed by private firms, have their own businesses or hold appointments in the Hospital Eye Service. A minority of opticians are engaged as specialists in orthoptics or work connected with contact lenses.

How to Become an Ophthalmic Optician or a Dispensing Optician

Training to become an ophthalmic optician may be undertaken by means of full- or part-time study at one of several training institutions recognised for this purpose. These are:

College of Science and Technology, Sackville Street,
Manchester.

Northampton College of Advanced Technology, St. John Street,
London, E.C.1.

Bradford Institute of Technology, Bradford.

Glasgow Refraction Hospital, 8, Clairmont Gardens, Glasgow,
C.3.

College of Technology, Gosta Green, Birmingham.

Welsh College of Advanced Technology, Cardiff.

London Refraction Hospital, 58-60, Newington Causeway,
London, S.E.1.

Heriot Watt College, Chambers Street, Edinburgh.

Stow College, 43, Shamrock Street, Glasgow.

Full-time study for the stipulated period of 3 years is the quickest road to qualification as an ophthalmic optician. The alternative, slower method of preparation is to take a course of training which extends over a period of 5 years: 4 of part-time and a final, fifth year of full-time study. As regulations and requirements differ between one college and another, details of these should be obtained in good time from the particular college at which training is to be undertaken.

Training as an ophthalmic optician prepares students for the examinations of certain recognised professional bodies. These are:

The Worshipful Company of Spectacle Makers, Apothecaries'
Hall, Black Friars Lane, London, E.C.4.

The British Optical Association, 65, Brook Street, London,
W.1.

The Institute of Optical Science, 23, Southampton Place,
London, W.C.1.

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The Scottish Association of Opticians, 116, West Regent Street, Glasgow, C.2.

The pre-entry requirements and the examinations of these professional bodies vary somewhat. Relevant details should be obtained direct from the body whose examinations are to be taken; the following examples will, however, give some indication of the field covered. The ophthalmic diploma (F.S.M.C.) examination of the Worshipful Company of Spectacle Makers covers the subjects of light and optics, ophthalmic lenses and frames (part 1 of the examination); the anatomy and physiology of the eye, the physiology of vision, and visual optics (part 2, Intermediate), and clinical and industrial ophthalmic optics, binocular vision and its anomalies, diseases of the eye, drugs used in ophthalmic work, and practical dispensing (part 3, Final).

The foregoing details are related to the training and examinations for ophthalmic opticians. Potential dispensing opticians must undergo a different type of instruction, the length and nature of which depend upon the precise qualifications at which they aim. Recognised diplomas or dispensing certificates are awarded to successful examinees by the Association of Dispensing Opticians, 50, Nottingham Place, London, W.1, and by the other professional bodies already mentioned, from which precise details should be obtained. To give some idea of the type of training, it should be mentioned that the course for the diploma examinations of the Association of Dispensing Opticians occupies a period of 4½ years. This may be made up of recognised college training for 2 years followed by employment with an approved optician for the remainder of the period. Alternatively, the total period may be spent in approved employment combined with part-time technical instruction received at one of the recognised training institutions or by means of correspondence courses. The qualifying examination (for the F.A.D.O.) of the Association of Dispensing Opticians is in 2 parts, Preliminary and Final, the subjects of which are: light, lenses and prisms, ocular anatomy and physiology, optical principles and practical work on lenses and frames, including fitting.

Methods and duration of training vary considerably and it is possible in the available space to give no more than a general indication of the expenses involved. £30 to £100 is the approximate cost of a course of full-time training at a technical college, and examination fees are from £22 to £28 for the ophthalmic optician and from 9 to 10 guineas for the dispensing optician. Living expenses and other costs must also be taken into account.

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Grant aid towards the cost of training is obtainable through the agency of scholarships and awards made by the professional bodies, details of which may be obtained from the secretaries concerned. Some full-time students are able to obtain grant aid towards maintenance and tuition expenses by means of the "major" awards made by some local authorities.

Most newly-qualified ophthalmic opticians first take up appointments under an experienced optician in general practice. Many later set up on their own account, rise to managerial and other supervisory posts or are appointed to the staffs of clinics and ophthalmic hospitals. Dispensing opticians usually seek, first, employment with a firm of dispensing opticians but may later branch out on their own account or enter the Hospital Eye Service.

POLICE SERVICE

Rates of Pay

Police cadets, recruited when 15 to 18 years of age, receive a starting wage of approximately £4 per week, and are provided with a free uniform.

Newly-appointed police constables start at a wage of £510 or more per annum and, in addition to this basic amount, also receive a rent allowance or free accommodation, a free uniform and a boot allowance. London policemen also receive a London allowance.

Up to £3,750 per annum is paid to those in top positions in the local police forces and similar rates of pay at all levels of promotion prevail in separate police organisations such as the force maintained and operated by the British Transport Commission.

Local police service is pensionable and contributions are deducted regularly and as a matter of course from the wages or salaries of serving members. Policemen may retire after 25 years' service on a pension equivalent to approximately half their previous pay.

Age of Entry

Cadets, at ages varying from as low as 15 years in certain cases to 18 in others, are recruited by some *but not all* police forces. Policemen (not previously cadets) are recruited within a variable age-range, the lower limit being 19, 20 or 21 years and the upper

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limit 25 to 30 years, according to local regulations. In special circumstances, the Home Secretary may, on the recommendation of the appointing authority, approve the appointment as constables of men above the age of 30, special consideration being given under this arrangement to ex-servicemen who have recently completed a long-service engagement.

Educational Requirements

The minimum standard of general education required of recruits to most police forces is that of school-leavers, aged 15. Compulsory entrance examinations must be passed in subjects such as arithmetic, English composition and general knowledge, and every candidate is interviewed before acceptance and enrolment. A higher standard of education is, of course, a distinct advantage to those seeking to rise high within this profession.

Personal Qualities and Attributes Needed

Local and special police forces consist of men (and women) in a variety of general and specialised jobs. Nevertheless whatever their specific place and occupation within the various departments of the profession, police service demands of its members certain well-defined personal qualities. Of paramount importance are moral qualities, especially complete honesty and integrity. It should be remembered that all policemen are judged as guardians, representatives and demonstrators of the law—even when they are off duty.

All public service should involve what is loosely called a "spirit of service to the public". In the case of a policeman, this means tenacity, reliability, and courtesy, and an equable temper in the face of law-breaker and law-abider alike. A policeman also requires personal courage, guts of the kind needed in a tight corner or when in the ordinary course of duty having to start and see through to the bitter end a dangerous and difficult assignment. A clear head and an alert mind are required, the eyes must be observant of detail and the memory good at assimilating and retaining facts and figures. Individual willingness and ability to accept responsibility must be coupled with the co-operative instinct necessary in those operating as members of a team. Qualities of leadership are required of those in the senior ranks and detectives, for example, must be exceptionally intelligent and possess certain specific qualities, such as ingenuity, of a high order. All candidates for enrolment to the police forces must submit suitable references testifying to their personal character.

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Recruits must have good eyesight without glasses (colour-blindness is a disqualification), be physically fit and be of at least the minimum height, 5 ft. 8 in. prescribed by the Police Regulations, though some Forces require a height in excess of this minimum.

About this Career

The various police forces are, collectively, society's instrument for maintaining law and order within itself. Severally, the main police bodies are the Metropolitan, city, borough, burgh and county forces. In addition, other separate forces are maintained and operated by such bodies as the British Transport Commission, the Port of London Authority, civil aviation and service departments, etc. The Metropolitan policeman is one member of a world-famous team, always referred to ecstatically by visiting film stars, and, on the other hand, the country policeman is more or less a civil father to his small community.

With the various police forces there is ample scope for suitable personnel in a wide variety of jobs, for police work is by no means restricted to "pounding the beat". Uniformed or plain clothes duties involve both indoor and outdoor work and is concerned with the prevention of crime as well as the apprehension of criminals. Specialised duties include those of the river and dock patrols, the mounted police and police dog handlers, motor patrols and criminal investigators. The policeman on view to all at a busy road junction must be supported by clerical staff and others who control operations in police stations, courts, etc.

All this goes to show that police service offers an interesting occupation to youngsters of the right type, mentally, emotionally and physically. Hours of work are not unduly arduous, although these include some night duty; pay at ordinary levels is reasonably good; there are excellent prospects of promotion to exceptionally interesting jobs which carry high salaries, and a retirement pension assures security after service life.

How to Become a Policeman

Undoubtedly the best procedure for an aspiring policeman, whilst still a youth, is to enrol as a cadet, if his local force accepts such entries. The would-be cadet, to qualify for selection, must be physically fit and able to fulfil certain other requirements. For example, he must already be of at least the minimum height stipulated by the force he seeks to join, or be very near the required height and likely to continue growing. He must have attained a

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reasonable standard of general education and will have to undergo a written examination.

A cadet, on admission to the force, is fitted with a uniform similar to that worn by an ordinary constable, but with distinctive badges, and immediately undergoes a period of training. He learns the principles of police work (that of his own force in particular and of the police forces in general), and is instructed in drill, physical training, first-aid, swimming and life-saving, etc., etc. The cadet, his initial training over, then progresses to clerical and messenger work in police or divisional headquarters, or may perform traffic control duty at school crossings, and do similar jobs.

During the cadet's preliminary service, he is encouraged to further his own education, to learn shorthand and typing, to develop himself physically and to participate in physical activities such as sports and games. In due course, when he is 19 or thereabouts, the age of recruitment to the regular force, the suitable cadet is enrolled as a probationer constable and immediately undergoes the usual 13-week training course.

Senior cadets, so-called, are enrolled at the age of 18 by the Metropolitan Police Force. Senior cadets, if of the required height and physical standard, may immediately on recruitment undergo the 13-week course of training and, when 19 years of age, become regular constables.

Those police forces which have no cadet training scheme recruit constables from suitable applicants of British nationality and within the age-range stipulated by the force concerned. Recruits must undergo a medical examination, pass an educational test, have to be interviewed and are required to produce character references. Successful applicants are enrolled as "constables on probation", are provided with a uniform and trained for 13 weeks at 1 of 10 police training centres. Training includes lectures and classes of instruction in theoretical and practical subjects. The probationer is taught elementary law and must memorise certain definitions and sections of acts. He is instructed in the correct compilation of reports; in the giving of evidence in court and correct conduct under cross-examination; in procedure in the case of road and other accidents. He is trained to develop accurate observation and to report correctly, is taught how to make arrests and receives instruction in physical training and subjects such as drill, civil defence, first-aid, etc. Probationers who turn out to be obviously unsuited to police work are normally discharged as early as possible during the training course.

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The complete course of training is punctuated by tests and concluded by a final examination. Successful candidates pass out and return for duty with their own force, to work first with an experienced constable and later to perform duty independently. Further part-time instruction is given during the remainder of the 2-year probationary period, and the constable twice returns for continuation courses at a training centre.

On completion of the obligatory probationary period, the fully-fledged constable may immediately apply for specialist training of one sort or another.

Applicants accepted for employment in the criminal investigation department are trained for 10 to 12 weeks in 1 of 4 special training schools. The subjects studied include the law of evidence and criminal law as it affects the police, and court procedure. Practical training is concerned with investigational methods, crime-site investigations, the import and interpretation of clues, etc. and instruction covers modern aids to crime detection. Obviously, certain types of personnel are better suited than are others to the work of criminal investigation; those who are found to be unsuitable revert to uniformed work with their own force.

Volunteers for motor patrol duties undergo a course in driving or motor-cycle riding, which includes the mechanics of the vehicle and some instruction in the carrying out of running repairs. Successful candidates, after a subsequent period of 2 or 3 years' service in the motor patrol, may take advanced courses which cover radio-telephony and driving or riding at high speeds under tough conditions.

Volunteers for the mounted branch of the police service must, in most cases, be under 25 years of age. Following selection, suitable applicants are trained for 6 months in riding and horse management before becoming fully operational.

Courses in dog handling, another specialised branch of police work, are conducted by certain forces only. The constable and a dog, usually an Alsatian, are trained together and operate as a team.

Potential training instructors for the police force may volunteer and be selected to undergo a course of special instruction lasting 6 weeks. The instructor, on successful completion of his training, may remain as such at the training centre or return in the same capacity to his own force.

Promotion prospects are good for the right type of person who is a hard worker. Constables in one of the general police forces must be successful in examinations—in educational aspects and

PROFESSIONAL FOOTBALL

in police practice and law—in order to become eligible for promotion. Constables seeking promotion to the rank of sergeant, may take the educational examination at any time after enrolment in the force, but must have served a minimum of 4 years as a constable before becoming eligible for the examination in police subjects and law.

Immediately on promotion to the rank of sergeant, or at any time afterwards, examinations may be taken for promotion to the rank of inspector (or station sergeant in the Metropolitan Police Force). Successful candidates are not considered for promotion, however, unless and until they have served as sergeants for a minimum period of 2 years.

Promotion still higher within the police forces comes about by means of selection on the basis of favourable reports and recommendations by superior officers.

Other Careers

A policeman, enrolled in the force at the age of 19, who retires on pension after 25 years' service, is at 44 still young enough to take up other work. Many policemen continue in active service for longer periods, of course. Many ex-policemen take up jobs of private investigation and similar occupations.

PROFESSIONAL FOOTBALL

Rates of Pay

A Professional Footballer may be engaged by a Football League club for full- or part-time service, or for play in single matches, and is paid a basic wage computed on a scale drawn up by the Football League Management Committee. The amount paid regularly to a full-time professional, aged 20 or over, playing in Football League games, must not be less than £8 at any time, or more than £17 during the close season and £20 during the playing season. In addition, a player may from time to time be paid certain bonuses and other benefits, such as a signing on or transfer bonus of £20, a match bonus and talent money.

There is no maximum wage regulation in the Football Association rules and other senior leagues do, in fact, pay some of their players more than the basic wage of £20 of the Football League.

MODERN CAREERS FOR BOYS

In most cases, a professional footballer's over-all earnings compare favourably with the income made by a person in any comparable profession.

Age of Entry

A player cannot be signed on as a professional footballer until he is aged at least 17 years. At the annual meeting of the Football Association in May, 1960, the rules were amended to provide for the registration of apprentice professional players, which would enable clubs to register a limited number of boys between the ages of 15 and 18 years on an apprentice basis, the boy to decide ultimately on his eighteenth birthday if he wishes to continue as a full-time professional. If not, he may revert to amateur status.

Educational Qualifications

No specific academic qualifications are required of the professional footballer. It should be remembered, however, that his professional life as a player is rarely longer than 20 years and that, after retirement, he requires an alternative source of income.

Personal Qualities and Attributes Needed

Extremely high standards in many respects are required of a professional footballer. It is not sufficient to have a great liking for the game and to be good at it in order to qualify for a place in this competitive profession. It is essential to have really outstanding ability at football, to possess not only skill with the ball but, also, a cool temperament and a clear head, intuition and nimble wittedness and the ability to think and act quickly. It is necessary to have high standards of sportsmanship and a good team-spirit, to give both loyalty and all-out effort, to put the club first and foremost both on and off the field. Absolute physical fitness is expected, also a liking for vigorous exercise, for most of a footballer's waking hours are spent in hard training. He must be amenable to discipline and be willing to go to bed early and shun smoking and anything else likely to detract from his efficiency on the field. He should favour a somewhat gregarious life, be able to mix well with all types of people and have a liking for travel.

About this Career

Football offers to the really gifted youngster a professional life that is healthy, exciting and rewarding—though of somewhat limited span. Competition is extremely keen, however, and it is by no means

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easy to turn professional footballer. Once this big step has been taken, the player finds himself in a profession that is highly organised and governed by strict rules and regulations designed to protect the interests of himself, his club and the public. Pay is good, holidays and spare time are generous and opportunities occur frequently for travel at home and abroad. The life is good even for those who, unlike the stars, do not get their names into the headlines after every match in which they have played.

How to Become a Professional Footballer

The boy likely to be successful in professional football usually exhibits outstanding ability whilst still at school, where he should, of course, grasp every opportunity of playing. If he stays on until he is 17, he may immediately afterwards be approached with an offer to turn professional by the manager of a club. (Whilst he remains on the roll of a recognised school, however, no approach of any description shall be made, either directly or indirectly, to sign registration forms or to play for an affiliated club.) Alternatively, if he leaves school at the age of about 15, he is wise if he spends the next few years training for a definite trade, at least until he is sufficiently old to approach or be approached by a club. During this interim period he should seek to gain experience by playing amateur football and by such means as serving as a junior groundsman or in some other capacity for a local club.

Becoming a professional footballer involves registration with the Football Association and the signing of various agreements. The rules and regulations governing registration and similar professional matters could not adequately be summarised in the limited space available here. A boy who is interested in the possibility of a career in professional football, and whose interest is justified by exceptional ability, is advised to write to the Secretary of the Football Association, 22, Lancaster Gate, London, W.2.

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Elsewhere in this book are separate sections dealing with certain individual careers in the scientific world. The purpose of this particular portmanteau section is to provide general information

about some of the remaining careers, collectively—those with which there is insufficient space to deal individually. The details included should be taken not as relating precisely to one or other of the many branches of science, unless this is stated specifically, but as an overall indication of conditions, rates of pay, etc.

Rates of Pay

A qualified scientist at the outset of his career, in his first professional appointment in industry, receives anything from £500 to £800 or more a year. Usually the higher salary is paid to the scientist with some research experience and similar additional qualifications.

University teaching posts, held by scientists of proved ability in research and teaching, carry salaries which range from £800 to £950 a year for assistant lectureships, to as much as £2,600 to £3,600 for professorships.

For scientific posts in the Scientific Civil Service, the London rates of pay vary between the £655–£1,150 a year paid to Scientific Officers and the £2,400–£2,700 paid to Senior Principal Scientific Officers.

Salaries vary widely, between the lowest and the highest, within the scientific profession as a whole.

Age of Entry

Most newly-qualified scientists with university degrees are aged 21 years or more by the time they take up their first professional appointments. Juniors who have not a degree qualification are appointed in laboratories of all kinds, immediately on leaving secondary school, and many of these later take part-time training courses at technical colleges and elsewhere.

Educational Requirements

Candidates for scientific training are, in general, required to have specific pre-entry qualifications in general education, in order to be eligible for admission to universities, training colleges, etc. The General Certificate of Education is usually an acceptable preliminary qualification. The higher the level at which this is obtained the better, in that a pass in the examination at Advanced level in most cases qualifies a student for exemption from the early part of some professional courses. The minimum requirement for university entrance is usually that the G.C.E. examination should have been passed in 5 or 6 subjects, at least 2 at Advanced level. The

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usual obligatory subjects are English language, a foreign language, mathematics or another approved science subject.

The best opportunities in the scientific world are open to university graduates and those who have obtained high qualifications from a recognised professional body. The new qualification, Diploma in Technology (Dip.Tech.), is likely to be popular in industry. This course is taken in selected technical colleges. Most scientists, aiming high in the profession, also take post-graduate courses of one type or another. Scientific workers of a lower order usually obtain national diplomas or certificates from technical colleges, training institutes or professional bodies.

Personal Qualities and Attributes Needed

Science has been defined as "systemised knowledge", a somewhat limited definition which nevertheless serves to indicate some of the qualities needed within this profession. First and foremost, the scientist must have wide technical and practical knowledge of his subject. To acquire and continually extend such knowledge, he must be well-endowed with mental power, be capable of much hard work of an exacting kind and have the ability to think logically, constructively and analytically. He needs to be an acute observer, meticulously accurate in all that he does, methodical and painstaking. He should be able to report and record with exactitude all his findings, in written or spoken form.

In addition to the general qualities required of all those who deal with matters of precision and fact, scientists in particular branches of work also need particular attributes and qualities to fit them for their specialised jobs. For example, patience, a wealth of ideas, a probing imagination and the ability to evolve and apply proving techniques are assets of particular importance to the research scientist.

About this Career

Science is of ever-increasing importance in this modern age of mechanical aids and guided missiles, the exploitation of natural resources and exploration of the solar system, of television and tinned foods, of new materials, processes and facts. It is true to say that science in one guise or another enters and influences practically every department of modern life. The scientific world, considered as a whole, is immensely more vital now than ever before in history, and the interest it holds for the right type of worker is inexhaustible.

MODERN CAREERS FOR BOYS

Science, considered overall as a profession, offers an incomparably wide range and variety of jobs to many, many thousands of workers of all types. A few examples only will indicate the extent of the professional field.

Industry now has a continually rising demand for qualified scientists and other scientific workers. Research scientists are required in the nationalised industries and by industrial firms and associations of many kinds, for a variety of jobs involving the testing of new materials, design and development, technical administration and a host of other activities.

The modern educational system absorbs scientists to be employed as teachers, and instructors and research workers at all levels from that of the secondary school to that of the university.

Government departments, such as the Scientific Civil Service, in their research establishments, employ scientists and other workers on fundamental research.

Agriculture, comprising both farming and horticulture and related branches, makes use of the services of scientists who are biologists, chemists, geneticists, etc., for purposes ranging from the testing of soils to mechanical engineering for the development of new machines. Study, research and teaching posts are available in a host of institutes, councils and associations.

Such is the scope of the scientific profession which offers ever more valuable opportunities to youngsters "scientifically minded" in one way or another. There is likely to be no shortage of scientific jobs in the foreseeable future and wages are generally high, though not good in certain sections of industry: related factors which mean that this profession affords a good standard of living and an unusual degree of security.

How to Become a Scientist

It goes almost without saying that the youngster's first step is to decide in which branch of scientific work he wishes to specialise. He must then obtain the best possible training, in relation to the goal he has set himself and the level to which he intends to rise within the profession.

To climb right to the top of the scientific tree it is essential to study for a university degree or for a high qualification awarded by a professional institution. Preliminary educational qualifications (already mentioned), terms of study and regulations governing the admission of students vary considerably between one training

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organisation or establishment and another. However, university training in most branches takes 3 or 4 years for a first degree. Tuition fees may amount to anything from £50 to £130 per each academic year, to which must be added examination fees of approximately £6 to £15 and living and miscellaneous expenses. It is also essential or desirable for those with high professional aims to have post-graduate training. Teachers usually undergo an additional year of post-graduate training at a training college or a university. Would-be teachers can go straight from school to a training college for a 2-year course (3-year from September, 1960); these do not attend university at all. Research workers gain additional experience over one or more years of time spent in a research establishment, a technical college or a university.

As has already been stated, in the scientific profession as a whole there are many subordinate, junior posts for which high qualifications are not essential. Juniors are appointed as laboratory workers, etc., direct from school, and immediately become wage-earning. Most then take part-time training at a technical college or other establishment in order to obtain professional qualifications such as diplomas or certificates. National certificates and diplomas in metallurgy, applied physics, etc., are qualifications for certain well-paid jobs in the appropriate branches. The fees for part-time instruction are generally not high, usually being in the region of £6 for a single academic year.

Grant aid towards the cost of training in scientific subjects may, in certain cases, be obtainable from a number of different sources. Scholarships are awarded by most local education authorities. Competitive science scholarships are awarded by many universities and university colleges. The Ministry of Education offers state scholarships in science. Some trusts and universities provide help for students taking post-graduate and honours degree courses. Other benefits include technical state scholarships available through establishments of further education and for post-graduate work awards are made by the Department of Scientific and Industrial Research, the Agricultural Research Council, the Colonial Office, etc.

The scientist, on qualification and after post-graduate study if taken, usually finds his first appointment in a junior capacity in industry, teaching or government service. In order to keep up-to-date, it is useful for a scientist to join one or other of the professional bodies, institutes, etc., connected with science generally and the selected branch in particular. The scientific professions'

trade union is the Association of Scientific Workers, 15, Half Moon Street, London, W.1. For physicists there is the Institute of Physics; for biologists the Institute of Biology, etc., etc.

SOLICITORSHIP

Rates of Pay

Most newly-qualified solicitors in their first appointments receive approximately £700 to £800 per annum. Experienced and successful solicitors in partnership or independent private practice have variable incomes, usually in excess of £1,500 a year, but their overhead expenses may be heavy.

Legal Assistants in the government service are paid on a salary scale which ranges from £880 (at the minimum starting age of 26) to £1,560 a year. Senior Legal Assistants receive up to £2,350, Assistant Solicitors upwards of £2,450 and Solicitors to Government Departments as much as £5,000 annually. Solicitors in the Colonial Service are paid not less than £1,240 per annum.

Although salaries in this profession are generally high, the same is also true of expenses in many cases.

Age of Entry

The minimum age is 21 for enrolment, as a solicitor, of a candidate who has passed the necessary examinations and fulfilled certain other requirements.

Educational Requirements

Those intending to train in solicitorship must have had a good general education. Of the alternative preliminary qualifications required, one is the General Certificate of Education. The appropriate examination must have been passed in 1 of 2 grades: (a) at the Ordinary level, in not less than 5 subjects, including an English subject (3 at least of which must have been taken at one time) or in not less than 6 subjects, including an English subject (2 at least of which must have been taken at one time); or (b) in not less than 3 subjects including an English subject (2 subjects at Advanced level taken either on the same or different occasions). Equivalent pre-entry qualifications include passes in examinations higher than

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that for the G.C.E., or in the Preliminary examination of the Law Society, which is open to candidates of 28 or more.

A university degree in law is a great aid during training, and qualifies the holder for certain exemptions, but it is not one of the essential preliminary qualifications.

Before a candidate is admitted to the profession and his name is placed on the professional Roll, he must have passed the Intermediate and Final examinations of the Law Society. He must also have completed a specified period under articles and be a British subject aged 21 or over. A solicitor, thus qualified by admission, is not entitled to practise until he has obtained a Practising Certificate, issued and renewable each year by the Law Society.

Personal Qualities and Attributes Needed

Solicitorship is an occupation of extreme importance and high standing both in and outside the legal organisation as a whole. Consequently, those who seek to practise it must be particularly gifted and able, intellectually and in other respects. A solicitor must have what is loosely termed a "legal mind", in other words be capable of logical and sustained thought at a high level, able readily to absorb and memorise facts, able to see the "wood" despite "the trees" and to express himself with absolute exactitude in both speech and writing. An exceptionally good knowledge of English is needed in order to be able to convey precise meanings in equally precise language, as required in law—despite the fact that legal "jargon" may appear at first sight to be beyond the comprehension of the average layman! It goes almost without saying that a solicitor must have a very wide knowledge of the law in all its aspects.

Not less important is that a solicitor should be a sound judge of character and have a never-flagging interest in people. Whatever his personal sympathies and opinions of human nature, he must be capable of totally impartial judgement and able to see all facets of every case.

Many of the requisite qualities are inherent in the right type of person, whereas others must be acquired or obtained as a result of experience. It is therefore not easy to assess whether a particular individual is likely to do well in this profession. The potential solicitor may be a boy who is interested in factual matter, expresses himself well in written work and orally in discussions and debates, and has a good memory. Perhaps the best indication

of all is exceptional intelligence coupled with a willingness and capacity for hard work and perseverance despite all setbacks.

About this Career

The legal profession is broadly divided into 2 main sections represented by solicitors, of which there are between 22,000 and 23,000 in Britain, and barristers. (A barrister, a member of the Bar, gives legal advice of a specialised kind and acts as Counsel in the higher courts; his profession is dealt with elsewhere in this book.)

A solicitor is a trained legal practitioner with authority to advise and represent the public in matters affected by the law. These may be concerned with such things as out-of-court settlements, the drawing up of wills and testaments, the transfer of property, and a variety of other matters, problems and procedures. A solicitor may represent litigants in the lower courts only.

Solicitors are officers of the Supreme Court and their profession is governed by Acts of Parliament and regulations laid down by the 2 professional bodies: The Law Society, Chancery Lane, London, W.C.2, for England and Wales, and The Law Society of Scotland. For example, a solicitor is debarred from advertising for clients but, in addition to the practise of his main profession, solicitorship, he may engage in other sorts of business. (It should be noted that all remarks above and below, in this section, refer to solicitors who train and ultimately practise under the jurisdiction of the Law Society for England and Wales; regulations governing solicitors in Scotland and elsewhere differ somewhat.)

Solicitorship offers a wide range of opportunity to exceptionally gifted individuals, in a profession which is well-organised and on the whole well-paid. The successful and experienced solicitor in industry, commerce or Government service benefits from a greater degree of security than does his colleague in private practice, but in both situations ability and hard work are likely to bring substantial rewards. The profession as a whole carries considerable prestige.

How to Become a Solicitor

The would-be candidate for training in solicitorship, having first obtained one or other of the necessary preliminary qualifications already mentioned, must next obtain from the Law Society permission to enter into "articles". To do this he must submit himself for interview by representatives of the Society, whom he must satisfy on points of personal character, aptitude and suitability for training.

SOLICITORSHIP

The successful candidate must then serve as an "articled clerk" under a practising solicitor, in most cases for a period of 5 years. A lesser period, of 3 years, under articles is sufficient in the case of candidates who are graduates of a recognised university in the United Kingdom. The articled clerk, during this training period, receives from his "principal" instruction in all legal matters. He performs duties of gradually increasing importance, progressing from routine clerical work, the copying of documents, etc., through the drafting of documents, up to the interviewing of individual clients and other similarly responsible jobs.

The articled clerk, unless he is a university graduate in law or specially exempted for other reasons, must also study for a period of 1 year at the Law Society's School of Law, in London, or at one of the recognised Law Schools, in the provinces, attending full-time if a student at the former, and normally part-time only if at the latter. In general, such study must begin not later than 15 months after articles have been taken out.

The articled clerk must also sit—usually within 1 to 2 years of entering into articles—for the Intermediate examination of The Law Society. This is in 2 parts the Law part and the Trust Accounting and Book-keeping part. The 2 parts may be taken together or separately and exemption from the Law part is granted to university graduates in law. Candidates for the Law part are examined in: the Elements of Law of Real Property; the Principles of the Law of Contract; the Elements of the Law of Torts; Criminal Law, and Public Law comprising the Law and Custom of the Constitution, and the Organisation of the Courts of Justice, with the outline of their past history, the Organisation of the Legal Profession and the Elements of Procedure; the other part of the Intermediate examination is concerned solely with Trust Accounts and Book-keeping.

The Final examination must also be taken by the articled clerk when very near the end of his period under articles or at some time after these have terminated. The Final consists of 5 obligatory papers and 2 optional papers, 1 each of the latter selected from 2 groups each of 4 subjects. The compulsory papers are: the Law of Real and Personal Property; the General Law of Contract and the Law of Torts; the Law of Wills and of Intestate Succession and the Principles and Rules of Equity; the Law relating to Income Tax, Death Duties and Stamp Duties, and Company Law and Partnership.

The overall cost of training is considerable. Expenses may include

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a premium, amounting in some cases to £300 or so, paid to the articulated clerk's principal. Part of this may later be returned in the form of a small salary, but some apprentices are non-salaried from beginning to end of their training period. Fees for training at the Law Society's School total approximately 65 guineas, and at Schools of Law elsewhere may amount to £20 a year. Examination fees may total approximately £40 and numerous incidental expenses must be taken into account. Grants towards certain fees and expenses may in some cases be obtained from local education authorities or from charitable funds administered by the Law Society.

The ultimate step in qualification is taken when a candidate has passed his Final examination, completed his period as an articulated clerk and reached the age of 21 years. He now applies to the Law Society to be admitted as a solicitor and to have his name added to the professional Roll. A fee of £5 must be paid to the Law Society on admission. A further fee of £4 is payable for a Practising Certificate, which must be obtained in order to practise as a solicitor and which must be renewed annually by the Law Society.

On full qualification and admission to his profession, a solicitor usually becomes an admitted managing clerk to an established solicitor. In this subsidiary position he gains valuable experience. He may later establish a new practice of his own, enter into partnership, or obtain an appointment in Government Service at home or abroad. Alternatively, he may enter a commercial or industrial firm or be appointed as a County Court Registrar, a Coroner, or some other official.

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Rates of Pay

Qualified teachers in primary and secondary schools maintained by local education authorities are paid in accordance with the Burnham scale, their salary being £520 at the outset rising to £1,000 by annual increments of £27 10s. 0d. Additions to this scale are made to teachers who are university graduates; to those who have taken certain approved courses of full-time study; to instructors in special schools for handicapped children; to those occupying positions of

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special responsibility and to head and assistant head teachers, etc. £1,235 is the approximate annual income—basic salary and additions—of a head teacher in a primary school, who is aged 33, has had 3 years' training and been promoted after 12 years' service as a qualified assistant teacher.

Teaching is a pensionable profession and a regular allowance is paid for life after a teacher's retirement at the age of 60 or later. The amount of the pension is calculated on the basis of the individual's total pensionable service as a teacher, his average salary during his last 3 years in the profession and on certain other factors. A teacher, retired after 40 years of pensionable service, may receive an annual allowance of one-half his former average salary and a lump sum of $1\frac{1}{2}$ times his former average salary. The amount paid is subject to reduction when the pensioner becomes eligible for National Insurance retirement benefit.

Age of Entry

A university graduate is entitled to begin teaching immediately he has obtained his degree, usually at the age of 23 or thereabouts. Those not qualified by this or other means begin college training usually at the age of 18 but in some cases when older than this. Training courses approved by the Ministry of Education last for 2 or 3 years (3 or 4 years from 1960 onwards) and, thereafter, successful students are approved and free to take up appointments in primary and secondary schools.

Educational Requirements

Graduates of a university and persons possessing certain advanced qualifications in art, music, commercial or technical subjects, are at present regarded as being qualified for teaching purposes. Many of these, in preparation for teaching, undergo one-year courses of training but such study is optional, not obligatory.

Would-be teachers who are not in the categories dealt with above must take an approved course of study at a training college. Practically every student is expected, before admission to college, to have completed a full secondary education, or by other means have reached a comparable standard, and obtained a School Certificate or 5 passes in any subjects at the Ordinary level of the General Certificate of Education. This requirement is waived only in the case of specially qualified persons or those particularly suitable and usually above the normal age of entry to college.

Students must successfully complete their course of training, after

which they are eligible for appointment to the teaching staff of a primary or secondary school and to be regarded as qualified teachers.

It should be added that, for an instructor in further education, training as a teacher is not a prerequisite or condition of employment, for no formal qualifications are stipulated as being essential. Training is nevertheless highly desirable and 1-year or part-time local courses are available for those who already possess suitable technical qualifications.

Personal Attributes and Qualities

Teachers, individually and collectively, are responsible not only to the young people in their charge and to parents but, also, to the community as a whole. Although they differ widely in type—so much so that no particular set of attributes assures success in this profession—good teachers usually possess certain well-defined characteristics. Important amongst these are an understanding of, and liking for, children and young people; the ability not only to instruct but continually to learn; an innate aptitude for maintaining good human relationships and the possession of a pleasant and likeable personality. Teachers must of course, be well-balanced and morally irreproachable, have integrity and be enthusiastic. Those who educate others must develop an informed opinion based on wide interests and themselves be educated in the fullest meaning of this word. A career in teaching should be considered only for the youngster gifted in general as well as specific pursuits.

About this Career

The need for trained teachers is at present greater than the supply and the position is likely to be the same for many years to come. The teaching profession therefore affords a large measure of security, not only during the working life of the teacher but after his retirement. Educational work is comparatively well-paid and there is almost unlimited scope for advancement in its many and varied departments. Activities are diverse and range from instruction of very small children to the preparation of older boys (or girls) for examinations leading to entry into the universities, the professions and industry. The teacher's sphere of work may be general or specialised. He may be mainly concerned with the intellectual development of his pupils; the appreciation and practise of the arts; instruction in practical skills and crafts, the study of languages, and physical, moral or social work. The teacher's *locale*

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may be the classroom, the laboratory, the workshop or the playing field: each or all of these in a remote, small school or a comprehensive, multilateral establishment attended by thousands of pupils.

Yet it should not be imagined that the teaching profession is a bed of roses or a "soft option". Holidays are long but liable to be eaten into by activities such as short courses, by means of which the teacher keeps up-to-date with his special subjects. Hours are only nominally short for a teacher's "spare" time may largely be taken up by the preparation and correction of students' work, participation in social events, attendances at meetings and clubs and the organisation of anything from a debating society to a pageant or play at Christmas-time. A teacher's life is strenuous and he is liable to criticism from all sides.

The *real* teacher, like a doctor or priest, is a dedicated person with a vocation. For him, teaching is a worthwhile and important job which affords happiness, satisfaction and spiritual in addition to material rewards.

How to Become a Teacher

Recruits to the teaching profession come from two main sources: the universities and the approved training colleges.

Graduates and other qualified persons may undergo additional voluntary training before taking up teaching appointments but need not necessarily do so.

Those aspiring teachers who must undergo obligatory training have first to attain the appropriate standard of education before admission to training college. Each individual must then apply for enrolment to the Correspondent of the training college at which he elects to study.

Most training colleges instruct in general work for teaching in primary and secondary schools. Some colleges specialise in such subjects as physical education, and a few are concerned solely with one aspect of education, such as the arts or sciences.

The normal training session begins in autumn and applications for admission to college are usually required to be made during the autumn of the year preceding that in which it is desired that training should start.

Courses of study in training colleges are approved by the Institute of Education. Student teachers study, in addition to general subjects, 1 or 2 special subjects of their own choice, such as physical education, in which they may be particularly interested. Supplementary courses in certain specific subjects, lasting a single

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academic year, are taken by some qualified teachers immediately on completion of their general training.

The Institute of Education examines students' work at the end of their training. Those students who successfully complete their courses are recommended to the Ministry of Education as being suitable for approval as qualified teachers. Notification of vacancies for teachers is made by the local education authority to students who are visited in college during the final year of their training or is obtained by advertisements in the educational press. Appointments to jobs are made by the local education authority or, in some cases, by the governors of certain schools.

British subjects resident in England or Wales are eligible for grant aid towards the cost of teacher training. The amount, assessed by the local education authority, varies according to the means and circumstances of the student or his parents upon whom he is dependent. In certain instances, grant aid amounts to full remission of college fees for tuition, boarding, personal and travelling expenses, home-maintenance costs, etc.

Other Careers

Few teachers voluntarily leave the teaching profession for some other profession. Most continue teaching until retirement age or rise to administrative and similar positions.

Addresses

In England and Wales there are over 130 colleges running approved courses of training for potential teachers. A complete list of these, *List 172, Establishments for the Training of Teachers in England and Wales recognised by the Minister*, may be obtained for a few pence from any bookseller or from Her Majesty's Stationery Office. This booklet contains the addresses of college Correspondents, details of special features of the curricula and the duration of courses, etc.

TRAVELLING SALESMANSHIP

Rates of Pay

A trainee is usually paid a fixed salary. A fully-fledged travelling representative or salesman may receive a regular wage, a set salary plus bonus, or work solely "on commission". The commissioned

TRAVELLING SALESMANSHIP

traveller customarily makes a small percentage on each transaction he arranges (after a fixed quota has been achieved) and his total income varies according to his efficiency in obtaining orders for the firm or firms he represents. His overall income may range from £800 to £2,500, during a good year, in the higher grades.

Age of Entry

Youth is a great asset to the traveller. The earlier he starts the better after a year or two spent acquiring practical knowledge of the items he is to handle. A youngster with the right personal qualities will, by the time he is 17 or 18, be sufficiently old and wise to take to the road in a junior capacity, making less-important calls for a senior representative. If his progress is satisfactory, he should be travelling independent of supervision within a matter of months.

Educational Requirements

The excessively cultured representative, no less than the rough diamond, is liable to antagonise or embarrass potential clients. A good general education is the best background. Academic or technical qualifications are required only by those specialist representatives who deal in engineering products, etc.

Personal Qualities Needed

The traveller deals as much with personalities as with commodities. He needs to have an instinctive interest in people and liking for them; an equable temperament; tactfulness, patience and scrupulous honesty. It is no less fatal for a representative to be indifferent or off-hand during an interview than to over-sell an article by making claims for it which are extravagant if not exactly untrue. Other valuable assets are: energy, a liking for travel and constant change and a disregard for creature comforts. A venture-some spirit is of more importance than having "the gift of the gab".

About this Career

The race of travelling representatives includes types as diverse as the pot-and-pan, door-to-door salesman, the wholesale/retail representative and the agent or broker who handles insurance and other large deals involving many thousands of pounds. The following remarks are concerned with one species of general traveller representing a manufacturing or wholesale organisation.

A travelling representative is the liaison between his firm and the retailers of its products in a certain area or circuit, which is

MODERN CAREERS FOR BOYS

usually regional in scope but may be national or even international. A publisher's representative, for example, visits regularly all the important booksellers in his area, taking with him specimen copies of books, sample dust jackets, display material and other publicity aids. He organises his visits to a strict timetable for, although each may be of short duration, many have to be sandwiched into a working day. A representative travelling in London will make 6 or 7 calls in a single morning. Between 12 o'clock and 2 p.m., when his clients are likely to be at luncheon, he himself has a meal, writes out his orders for the invoice and despatch departments of his firm, writes letters, makes telephone calls arranging further appointments and completes similar routine office work. In the afternoon he again makes calls from 2 to 5 o'clock and finishes the day with another session at his desk.

Travelling further afield involves considerable organisation and expert timing. Journey lists must be prepared and appointments made well in advance by telephone or postcard if arrangements for calls have not been completed on a previous visit. The traveller must allow himself time to get from one retailer to another on his list—yet not so much time that valuable hours are wasted unnecessarily in waiting for the times of appointments to come round. Travelling and waiting time is virtually wasted time. For a traveller to visit all the retailers on his list in an area which includes a large city, such as Birmingham, may mean an absence from home of several days and sacrifice of part of the preceding week-end if the first calls of a tour are to be made early on a Monday morning.

A traveller usually drives a car, his own or his firm's, for convenience in getting to otherwise inaccessible places. He must be able to read maps; know where to find the best accommodation at a price he can afford; calculate accurately the time it will take him to get from one retailer to another and remember to avoid early-closing days and other times when his clients cannot or will not see him. During an absence of several days from his base, the traveller usually completes the day's "office work" in the evening. He may, on the other hand, let it accumulate and do it only when he returns to his base. His commission and expenses are assessed after the event and his percentage may be paid to him monthly, quarterly or half-yearly.

A traveller may represent one firm only or several. A free-lance representative usually looks after the interests of several different and non-competitive firms, from each of which he receives a small retaining fee and generous commission. He runs himself much as

he would a small business and is usually able to make a very good living.

Success depends, of course, on the attitude and personality of the traveller as much as on his organising ability and the quality of the goods he has to sell. The good traveller is not a professional shyster or confidence trickster, out to make a fast shilling at any customer's expense. He seeks, rather, to build up a reputation for reliability and knowledge of his particular "line" on a basis of mutual understanding between himself and his clients, as a result of which he receives a more or less constant stream of orders.

It is perhaps true that travellers are apt to talk of their profession as one round of hardship and disappointment, of insecurity, of back-breaking effort. Undoubtedly the work is hard and tiring at times; absences from home are frequent and there are occasional set-backs and complications. Yet these snags are outweighed by many advantages. The traveller knows a freedom denied to the static worker. He has a constant change of scenery, meets new people all the time, leads a varied and sometimes adventurous life. Most important of all: he makes a good living if he knows his job, is something of a psychologist and is ever ready to help his clients.

How to Become a Travelling Salesman

Three avenues of approach are open to the would-be travelling representative. (1) He may take instruction in salesmanship at one of the commercial schools now running courses on this specialised subject. Better still, (2) he may, in the first instance, join a reputable firm in order to learn about the product he wishes eventually to sell. The publisher's representative usually starts in the sales side of a publishing house where he becomes familiar with the trade, technical terms, titles, prices and so on. He makes it clear at the outset that he wishes ultimately to be considered for any travelling position which may become vacant. If, when he feels he is ready to go on the circuit, there is no immediate prospect of his being given a suitable area to cover, this is usually the time to move to the job he wants with another firm. Perhaps the best procedure of all is (3) for the youngster to make use of one of the many training schemes operated by large firms whose managers prefer to train from scratch their own travelling representatives. The advertisement columns of most daily papers contain notices of such opportunities. Suitable applicants are taken on at a definite salary, their progress is reported upon at intervals and, if successful in the job, they ultimately operate as travellers on the usual terms.

Other Careers

Over a period of years a traveller acquires country-wide experience which qualifies him for many jobs. Once he has his "connection" he uses this in many different ways. In most cases, however, the best travellers eventually rise to occupy highly-paid positions of responsibility as sales executives or at directorship level.

TURF—The Jockey

Rates of Pay

It is usual for a trainee or an apprentice jockey to be taken on, by a trainer, on a "board and lodging" basis; in other words, he is housed, clothed and fed free of any cost to himself. He receives no wages but is given pocket money, the amount of which depends largely upon his master's financial circumstances and generosity. It may range from as little as 5/- a week during his first year of training, to 25/- or more each week during his fifth year. An apprentice's spending money may be augmented from time to time by his share of the riding fees paid for certain races in which he takes part.

When an apprentice rides for his master, or his master's patrons, he customarily does not receive any part of the riding fee. If and when he rides for outside trainers and owners, he normally receives for each such ride half the usual riding fee of 5 guineas or, if he is fortunate and skilful enough to lead the field home, half of a winner's fee of 7 guineas.

On completion of his apprenticeship, at the age of 23 or somewhat earlier, the erstwhile trainee who is really good at his job becomes a full jockey. As such, he receives for each race in which he rides the entire riding or winning fee mentioned above. In addition, he is usually presented with 10 per cent of the winning stakes. His income therefore varies according to the number of rides and wins he achieves, and other factors. If a jockey becomes really popular and is in much demand, he may be paid regularly a retaining fee by 1, 2 or even 3 different stables, to ride when required for the trainers concerned and their patrons. The retaining fee paid to a top-line jockey by the first stable in line for his services may amount to £1,000 a year, and three retaining fees may total a basic annual income for him of as much as £2,000—to which is added the proceeds of his many rides.

TURF—THE JOCKEY

The foregoing serves to show that it is virtually impossible to give any useful indication of the over-all income which a would-be jockey might expect to make after some years of experience. A very few jockeys, the best and most popular, who ride in perhaps 600 races or more in a single year, make some thousands of pounds annually. Yet for every jockey who makes such a truly fabulous income, there are perhaps a hundred others who scrape a comparatively meagre living from few rides. Usually it is a case of a jockey making either a fortune or comparatively little.

Age of Entry

A boy may not be apprenticed in any way to a trainer, or be licensed as an apprentice jockey by the Stewards of the Jockey Club, until he has reached the current school-leaving age of 15 years. If he is to ride as an apprentice jockey, his indentures must cover a period of not less than 3 years. It is more usual for an apprenticeship to last for 5 years and, in many cases, it is extended until the apprentice is aged 23—after which he is no longer permitted to ride as an apprentice jockey but must become a full jockey, remain just a stable lad or take up some other occupation.

Educational Qualifications

An aspiring apprentice or jockey is not required to have attained any specific qualifications in general education. It is nevertheless advisable for him to learn as much as he can, and rise to as high a standard as is possible, by the time he reaches the ordinary school-leaving age and is eligible to be considered for an apprenticeship. A good education is always an asset; it is never wasted.

Personal Qualities and Attributes Needed

In assessing the potentiality of a boy for a career as a jockey, consideration must be given, first and foremost, to the question of his weight and, in relation to this, his height. A jockey must obviously be light in weight and for this reason a boy should weigh something under 6 stones at the time he is apprenticed. Furthermore, so far as it is possible to predict, taking his height and other factors into account, it should appear unlikely that he will ever put on a great deal of weight. The apprentice who does become considerably heavier than the maximum practicable in flat racing may, of necessity, have to turn to riding in steeplechases and hurdle races in which greater weight is tolerated.

Of almost equal importance to the need for physical suitability, is

the fact that a would-be jockey must have a great liking for horses and a love of riding. Race-horses, especially, are extremely sensitive to riders and other people in close contact with them. If they sense fear, distrust or dislike in a person they are likely to cause trouble, and in this respect are not unlike dogs. A jockey must, therefore, have understanding and quick perception, for he is dealing with highly intelligent animals, not machines! He must have a sensitive reaction to each horse he rides and be prepared for all sorts of idiosyncrasies on the part of his mounts.

A jockey must, of course, be a first-class "natural" rider and, also, be willing to spend long hours learning all the tricks of his trade. He must be capable of really hard work and ceaseless application to his job if he is to rise to the heights in his chosen profession.

A jockey is required to travel widely to attend race meetings in all parts of the country and abroad. He should, obviously, not be a stay-at-home type, excessively fond of creature comforts. As he has to spend much of his time outdoors, riding and exercising horses in all weathers, he must have a liking for an open-air life, good physical health and the stamina to withstand considerable strain.

An agreeable disposition is an asset to the jockey in his relations with colleagues of all types. He must be honourable, have a sense of fair play and be a good loser if and when the necessity arises. Personality, and push, combined with a calm temperament, are invaluable assets without which a jockey is ill-equipped for the hard struggle he has set himself.

About this Career

A race meeting is a time of excitement and enjoyment for spectators in the enclosures and stands. For the jockey, it is just another occasion when he must do a job for which he has spent years in training. He has had to learn how to look after horses, to cater for their every need, and has had to do menial jobs behind the scenes on the road to his present position in the public eye. There is little or no glamour about his occupation, in which only a very small percentage of the total number of jockeys succeed in making a phenomenally good living. A great number of mediocre jockeys ride fairly often but bring in few winners and make little money. There are, of course, many good jockeys who ride regularly, have a fair number of winners and make a reasonable living. But the stars of the jockey world are as few and far between as those of stage and screen. An apprentice in many a profession is pretty sure of a

reasonable income, with certain standards of living provided that he learns his job well and fulfils his obligations to his employer. A jockey's life, by comparison, is precarious. His pickings may be slim if he works for a small stable and a pinch-penny trainer and owner. A great deal depends, of course, upon the quality and popularity of the stable for which a jockey first works. In the final analysis, however, it is ability that sees a jockey through to success in a life which, despite all that has been said above, may be the only life for him.

How to Become a Jockey

It is an unfortunate fact that many boys are more or less thrust into this occupation because of their low weight and small size. This should be avoided at all costs, for it is not nearly enough to have physical qualifications alone. First of all, there should be full discussion between a boy and his parents, as to the full implications of the possibility of his becoming a jockey. A decision should be made as to his suitability for such an occupation, in all respects, and assessment made of his chances of success in it. If, then, the decision is made to go ahead, the parents of a boy with the necessary qualities and attributes, physical and otherwise, should, on his behalf, approach a licensed trainer with a view to the boy being taken on as a trainee or apprentice. Care should be taken to select a good stable, for obvious reasons.

If the trainer approached is prepared to accept the boy, he may be engaged in one of two categories. He may be accepted "on approval" as it were, for a period of perhaps 6 months. If he shows the necessary aptitude for his job, and satisfies all requirements, he may then be formally apprenticed for a number of years. Alternatively, a boy may be taken on as an apprentice from the very beginning.

A boy, in becoming an apprentice, binds himself to his master for a period of time stipulated in the indentures—which include normal safeguards for the trainer in respect of the boy carrying out his duties satisfactorily, and so on. If the apprentice fulfils expectations, his master usually applies on his behalf for him to be licensed, as an apprentice jockey, by the Stewards of the Jockey Club.

In due course, when the apprenticeship terminates, he may continue with his original stable, as a retained jockey, but much of what happens to him subsequently depends upon supply and demand. If a jockey is really good, other owners and trainers commission him to ride for them and it is from this source that he obtains his income.

VETERINARY SCIENCE

Rates of Pay

The veterinary profession offers to suitably qualified personnel a diversity of jobs, most of which afford a living comparable to that obtainable from other of the learned professions. Qualified assistants receive at the outset not less than £15 15s. per week and comparatively few veterinary practitioners have an income lower than £1,000 per year. Veterinary Officers employed by the Ministry of Agriculture, Fisheries and Food begin, usually at the age of 25, at a salary of £815 per annum which rises over a period of years to approximately £1,540. The Ministry's Divisional Veterinary Officers are paid on a salary scale of £1,640-£2,050 per annum and may rise to higher and still better-paid jobs. Certain colleges, institutes, councils and other organisations employ qualified veterinarians on investigational and research work at salaries ranging from £730 to £1,900 per year. Still higher salaries are paid to professors and other persons occupied in teaching.

Age of Entry

Most students begin veterinary training at the age of 18. in a university school or college which they enter direct from secondary modern or grammar school. Qualification is, however, also sought by a small percentage of older persons, who take up veterinary studies at a later age because their formal training has been delayed for one reason or another. Approved courses in veterinary science are of variable length although, in most cases, a period of 5 years' study is the obligatory minimum. Many students are therefore aged 23 or over before becoming fully qualified and able to take up professional appointments.

Educational Requirements

Each university school or college which issues veterinary degrees approved by the Privy Council requires that intending students should have attained certain pre-entry qualifications. In most instances, students must have obtained passes at the ordinary level of the General Certificate of Education examination, in certain subjects such as biology, physics and chemistry, although some

universities demand qualifications higher than this. Students wishing to acquire a degree in veterinary science from a Scottish university must, on entry, hold a certificate of fitness to embark upon the necessary course—a document issued by the Scottish Universities Board.

Intending veterinarians must obtain a degree in veterinary science from one or other of the Universities of Bristol, Cambridge, Edinburgh, Glasgow, Liverpool or London, or from universities in the Republic of Ireland. The appropriate degree, recognised by the Privy Council, leads the holder to: (a) Membership of the Royal College of Veterinary Surgeons, which is synonymous with registration in the Register of Veterinary Surgeons—upon application and payment of a registration fee of 6 guineas; (b) membership of the veterinary profession and (c) entitles him to practise veterinary surgery and medicine, provided that he pays an annual fee for retention of his name on the Register.

Personal Attributes and Qualities Needed

The intending veterinarian's prime necessity is for a genuine interest in and "feeling" for all so-called dumb creatures, not only domestic pets but cold- and hot-blooded organisms ranging in size from the microscopic to the elephantine. He must be able to face without squeamishness the sometimes extremely unpleasant symptoms and states of his inarticulate patients and have an extremely sharp eye for detail. He needs, also, to be sufficiently tolerant to get on well even with those "animal-lovers" who may be the real, though unintentional, cause of suffering. Business acumen is a great asset, especially to veterinarians in private practice.

About this Career

Veterinary science as a whole is concerned mainly with animal health, disease, and productivity. The profession needs general practitioners no less than personnel with a special "bent", for veterinary work is widely varied in scope and type.

Private practice by individuals or partners includes the treatment of mainly domestic animals in urban areas, the care of farm animals in rural districts and specialisation with dogs, horses or cattle. The majority of veterinarians practise privately at some time or other and usually start as assistants to established practitioners.

Full-time Veterinary Officers are employed by the Ministry of Agriculture, Fisheries and Food for varied duties in connection

with: the tuberculin testing and inspection of dairy cattle; observance of regulations governing the import, export and transit of livestock; improvement of poultry stock; laboratory and field investigation and research into the causes and control of diseases of livestock, etc., etc. Similar research opportunities of a specialised nature occur in certain state-assisted institutes and within such organisations as the Agricultural Research Council which, like the Ministry, offers good prospects for promotion. Veterinary research, with a consequent need for qualified staff, is also practised by private and commercial institutes, also firms dealing in the feeding and medication of animals. Research and teaching posts up to professorial level have to be filled in universities issuing veterinary degrees and operating departments of agriculture. There is work for suitably qualified veterinarians at cattle-breeding centres, under local authorities, with the Royal Army Veterinary Corps and in the Veterinary and Research branches of Her Majesty's Overseas Civil Service.

How to Become a Veterinarian

The first step is to obtain, during general schooling, those specific qualifications stipulated as being necessary for candidates seeking entry to one or other of the universities issuing veterinary degrees recognised by the Privy Council. These universities are:

- (1) *The School of Veterinary Science, the University of Bristol.*
- (2) *The School of Veterinary Medicine of the University of Cambridge.*
- (3) *The University of Glasgow, Veterinary School, 83, Buccleuch Street, Glasgow.*
- (4) *The Faculty of Veterinary Science of the University of Liverpool.*
- (5) *The Royal Veterinary College, Royal College Street, London, N.W.1.*
- (6) *The Royal (Dick) School of Veterinary Studies of the University of Edinburgh, Summerhall, Edinburgh, 9.*
- (7) *The Veterinary College of Ireland, Ballsbridge, Dublin, S.E.4.*

Just as pre-entry requirements differ from university to university so, also, the duration of courses and the curricula are varied. In general, however, a 5-year course usually covers the following subjects: botany; chemistry; biochemistry; physics; zoology; animal management; veterinary anatomy and physiology; animal

VETERINARY SCIENCE

husbandry, bacteriology and pathology; pharmacy and pharmacology; veterinary *materia medica*; veterinary surgery, medicine and obstetrics; veterinary state medicine, etc., etc.

Tuition fees for complete courses vary but, at most universities, are in the region of £300-£400. Maintenance expenses are usually not less than £170-£200 per annum for a student living at home and £250-£275 for a resident in college.

Certain students are able to obtain grant aid towards the cost of their training, from different sources. State scholarships are awarded, details and entry forms for which may be obtained early each year from the heads of secondary schools in England and Wales. Individual universities will supply on request details of university awards such as open scholarships which are tenable by those wishing to obtain veterinary degrees. Further education, including veterinary science, is subsidised by means of scholarships awarded by local education authorities, to whom enquiry should be made for details. The Ministry of Agriculture, Fisheries and Food awards a number of scholarships to the full value of tuition fees and a maintenance allowance to the children of workers in agriculture and certain other rural industries. Awards for post-graduate training are made by the Agricultural Research Council and assistance may be given by the Animal Health Trust to those veterinary students who would otherwise be unable to finish their training due to lack of funds.

Qualified veterinarians, on leaving college, usually become assistants to established practitioners, in preparation for setting themselves up in practice, or seek employment with official or private organisations.

Other Careers

There is no age limit for this profession which offers such varied work that few qualified veterinarians leave it to take up other occupations. Most seek to establish themselves in private practice or to rise to the highest posts within the profession.

WINDOW DRESSING AND DISPLAY

Rates of Pay

As each departmental and multiple store is a law unto itself, the wages paid to window dressers and other display personnel vary considerably according to the size of the employing organisation and other factors. A junior or assistant window dresser receives as little as £4 to £6 per week and a senior in the region of £10 to £12. The posts of display manager and assistant manager—at which every window dresser aims—carry salaries varying between £12 and £25 per week. Travelling window dressers who receive appropriate allowances, also free-lance dressers, are generally considered to be in a better financial position than are their resident counterparts.

Age of Entry

School-leaving age—currently 15 years—is the best time to begin as a junior, although there is no actual age-limit to recruitment. Each newcomer to the trade starts at the bottom of the display department, at a low wage, so the earlier the better is a good maxim.

Educational Requirements

No specific standard of general education must have been attained but an artistic background is highly desirable if not essential.

Personal Qualities Needed

First and foremost, the would-be window dresser must possess marked artistic talent and sensibility, particularly a good sense of design and colour. He needs, also, initiative and imagination, for it is no mean achievement month after month continually to re-dress the windows of a store so that passers-by are lured irresistibly inside—even against their will, as it were. Ingenuity is a great aid to contriving eye-catching apparatus and practical ability at general handywork is necessary in order to be able to cope with incidental jobs of construction and repair of window scenery and props. Strength and health are required and a “thick

skin" as a buffer against the outspoken criticism offered by both colleagues and onlookers alike.

About this Career

Window dressing in a large store is the work and responsibility of a display department which may number up to 35 or 40 individuals. It usually includes: a display manager and his assistant manager, window dressers of senior and junior status and various tradesmen such as painters and carpenters. There may be, in addition, certain designers who concentrate all the year round on special displays such as those for Christmas windows, any which involve the use of mechanical devices and on various important promotions which occur from time to time. The display staff, although concerned primarily with window dressing, may have the incidental job of decorating interior displays and stands within the store.

Travelling window dressers are employed by some multiple stores to circulate and dress the windows of each subsidiary branch in turn, one after another. Alternatively, a central, small display department may be maintained to prepare and despatch blueprints for window displays which are then created by branch ordinary assistants during the course of their other duties.

Self-employed window dressers build up a clientele of small shopkeepers for whom they periodically display anything from a needle to an anchor. Such free-lance dressers, not unlike window cleaners, are paid "by the window" and their income depends upon the number of shops they are able to fit into their "round".

The windows of modern, large stores are re-dressed regularly, in most cases once a week. Each display may first be planned on paper or—as is more usual—be designed as it is actually created by a senior window dresser assisted by a junior. The practical work involved is frequently both hard and dirty. The dresser must be present to supervise or participate in jobs of construction and painting, amid all the attendant dust and dirt. He and his assistant may then have to manhandle into the window a variety of heavy and unwieldy items, such as complete rolls of linoleum, full-size carpets, sink units, beds and divans, mannequins and window boxes full of plants. He may have to display a selection of valuable and fragile articles and materials ranging from cascades of tulle and net, paper-thin glass and china, to delicate jewellery and statuary. He may in passing have to tackle a bit of extra carpentry or a spot of electric wiring; paint in quick time a section of damaged wall

or a large mural; arrange several bowls of flowers with all the accomplishment of a professional florist and sweep or scrub floors as often as the need arises. He must be a Jack of all trades, able to visualise in advance the ultimate effect of each of his schemes and always abreast with, if not one jump ahead of, current ideas and trends. He is expected by his superiors to keep an eye on the window displays of rival stores in the district, to study the latest magazines dealing with decoration and display and always to be on the look-out for new ideas. Not only must he be able to drape any and every sort of material to best advantage but, also, tactfully defend himself against the importunity of departmental managers and buyers, all of whom wish to see their latest purchases displayed immediately these arrive in the store. Fortunately, it is now more or less an accepted fact that, so far as the large store is concerned, the greatest luring-power over potential customers is exerted by a few choice items tastefully arranged, not by innumerable articles and tickets sardined into every inch of window space.

Window dressing is at times sheer hard labour, always grubby work, and by no means a pretty-pretty occupation in which elegant young men and girls wearing immaculate clothes and felt overshoes do nothing other than make artistic arrangements of beautiful things. The window dresser is not unlike an iceberg, in that about nine-tenths of all he does is not apparent to the onlooker, peering into store windows which may be four times as big as the rooms in an ordinary house and of awkward shape into the bargain.

To get some idea of a window dresser's work, double or treble the number and size of the rooms in your own home and imagine having to turf out everything, then redecorate and rearrange the furniture, fabrics and fittings from floor to ceiling, cellar to attic, once every week in the year.

Window dressing, though but poorly paid at the outset, is nonetheless a challenging occupation for the boy possessing artistic talent, inventiveness and imagination. It is at least a practical outlet for an artistic temperament which is liable to find fewer opportunities than does the mechanical mind in these days of industry and science. At worst, it prepares the talented youngster for more remunerative jobs.

How to Become a Window Dresser

Most experienced display personnel are of the opinion that it is best for the would-be window dresser when he leaves school to go straight into the display department of a large store. Know-

WINDOW DRESSING AND DISPLAY

ledge gained through a full- or part-time course at an art school is considered to be extremely useful, yet the beginner is likely to learn and progress more quickly in actual working practice under commercial conditions.

Accordingly, the aspirant is recommended to select one or other of the largest departmental or other stores in his locality and apply to be taken on to the display staff as a junior window dresser. He should make application in the first instance: (a) direct to the display manager of the store or (b) to the personnel manager who will, if the applicant seems a suitable type, help him on to the first rung of the ladder by referring him to the display manager.

The junior begins his professional life by fetching, carrying and working generally under the direction and supervision of a senior dresser. The youngster, having started at the age of 15, will, in all probability, be a fully-fledged window dresser within 2 years. Promotion to senior dresser may follow more quickly even than this if a junior shows particular aptitude for display work.

It is understandable that further promotion, to assistant manager, then manager, is more difficult to obtain than is advancement in the lower levels of the display department. Yet many of the most talented window dressers eventually rise to one or other of the higher positions, or both. At display managerial level, it is generally assumed that the top of the tree has been reached but it is a fact that some display managers are finally given directorships. In many boardrooms much value is placed on the experienced display manager's knowledge of what the public wants, of trends in public taste, of sources of supply within the trade and related information.

Other Careers

A window dresser's experience is valuable qualification for better-paid posts in several allied trades and professions. Many experienced dressers branch out into display firms and similar organisations specialising in the design, construction and decoration of stands such as those at large exhibitions and shows. Some take up interior decoration, as employees of firms or on their own initiative. A few make use of their knowledge of furniture, fabrics and colours in jobs of design and decoration for stage productions, films and television.

